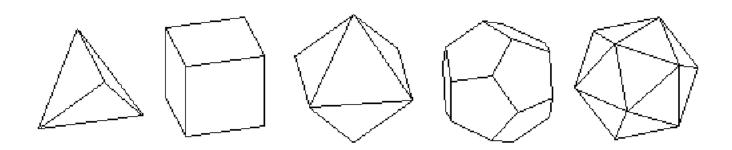


## Paper Models of Polyhedra

Gijs Korthals Altes



Polyhedra are beautiful 3-D geometrical figures that have fascinated philosophers, mathematicians and artists for millennia



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## Paper Models of Polyhedra

Platonic Solids Dodecahedron Cube and Tetrahedron Octahedron Icosahedron

Archimedean Solids Cuboctahedron Icosidodecahedron Truncated Tetrahedron Truncated Octahedron Truncated Cube Truncated Icosahedron (soccer ball) Truncated dodecahedron Rhombicuboctahedron Truncated Cuboctahedron Rhombicosidodecahedron Truncated Icosidodecahedron Snub Cube Snub Dodecahedron

Kepler-Poinsot Polyhedra Great Stellated Dodecahedron Small Stellated Dodecahedron Great Icosahedron Great Dodecahedron

Other Uniform Polyhedra Tetrahemihexahedron Octahemioctahedron Cubohemioctahedron Small Rhombihexahedron Small Dodecahedron Small Dodecahemiododecahedron Small Ditrigonal Icosidodecahedron Great Dodecahedron

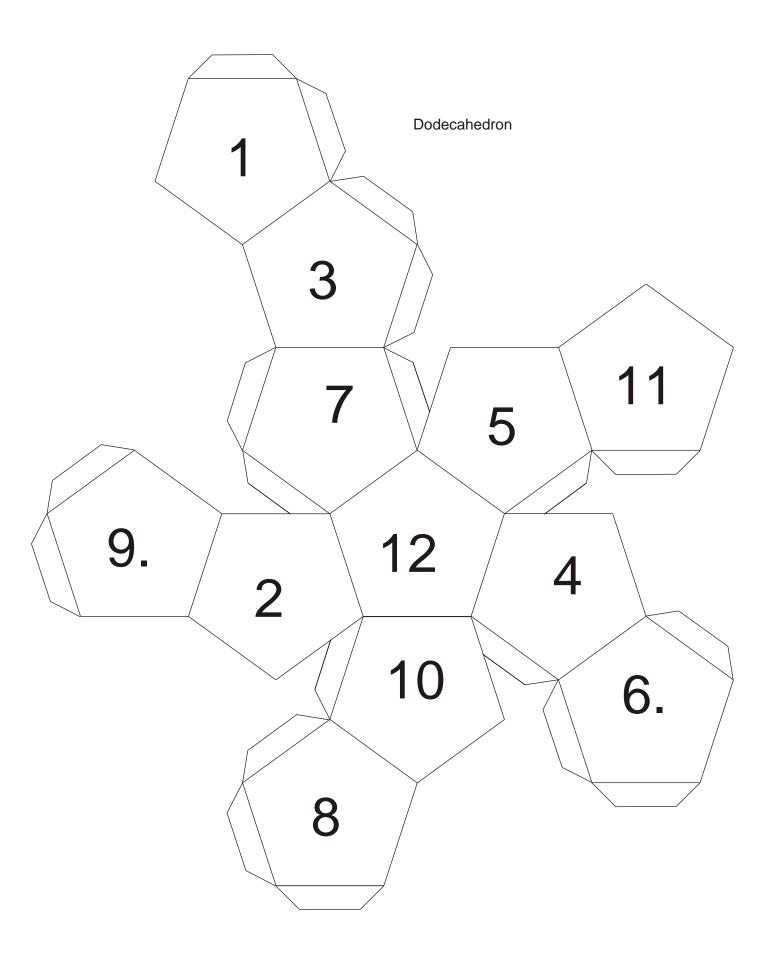
Compounds Stella Octangula Compound of Cube and Octahedron Compound of Dodecahedron and Icosahedron Compound of Two Cubes Compound of Three Cubes Compound of Five Cubes Compound of Five Octahedra Compound of Five Tetrahedra Compound of Truncated Icosahedron and Pentakisdodecahedron Other Polyhedra Pentagonal Hexecontahedron Pentagonalconsitetrahedron Pyramid Pentagonal Pyramid Decahedron Rhombic Dodecahedron Great Rhombihexacron Pentagonal Dipyramid Pentakisdodecahedron Small Triakisoctahedron Small Triambic Icosahedron Polyhedra Made of Isosceles Triangles Third Stellation of the Icosahedron Sixth Stellation of the Icosahedron Seventh Stellation of the Icosahedron Eighth Stellation of the Icosahedron Ninth Stellation of the Icosahedron Final Stellation of the Icosahedron

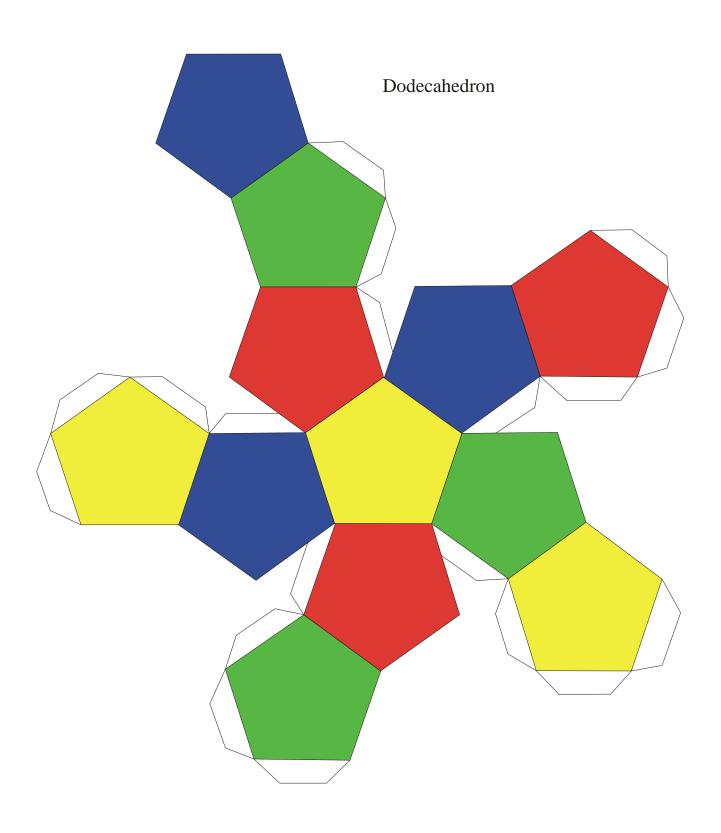
Prism and Antiprism Triangular Prism Pentagonal Prism Pe ntagonal Antiprism Triangular Prism Octagonal Prism Octagonal Antiprism Pentagrammic Prism Hexagrammic Antiprism Hexagrammic Antiprism Twisted Rectangular Prism

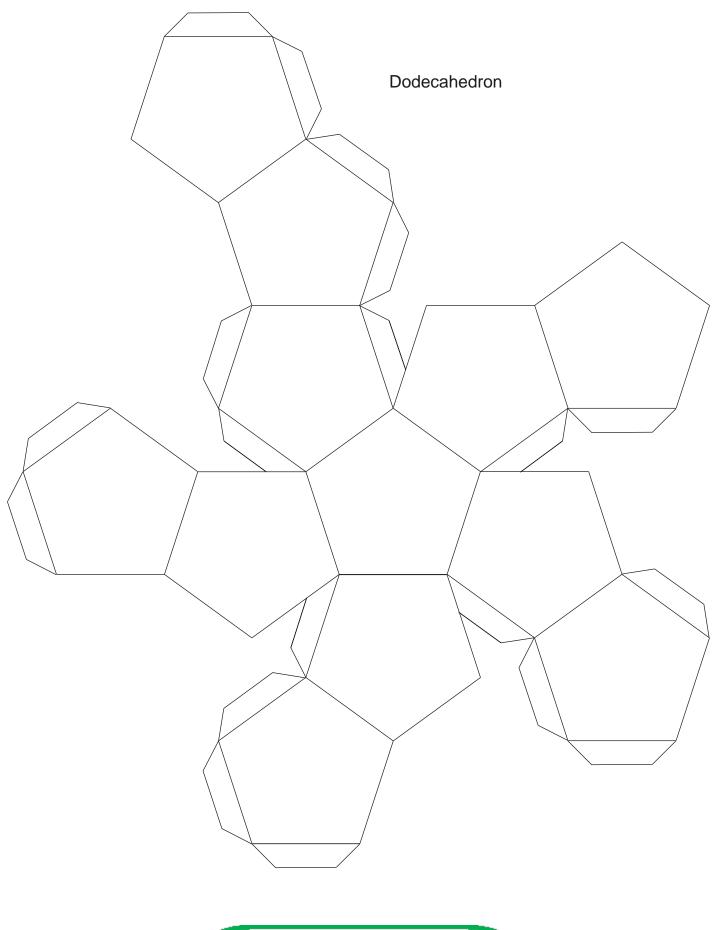
Kaleidocycles Hexagonal Kaleidocycle Octagonal Kaleidocycle Decagonal Kaleidocycle

Other Paper Models Cylinder Tapered Cylinder Cone Special Cones "Matryoska house" "Matryoska house" 50% Globe Chevaux-de-frise

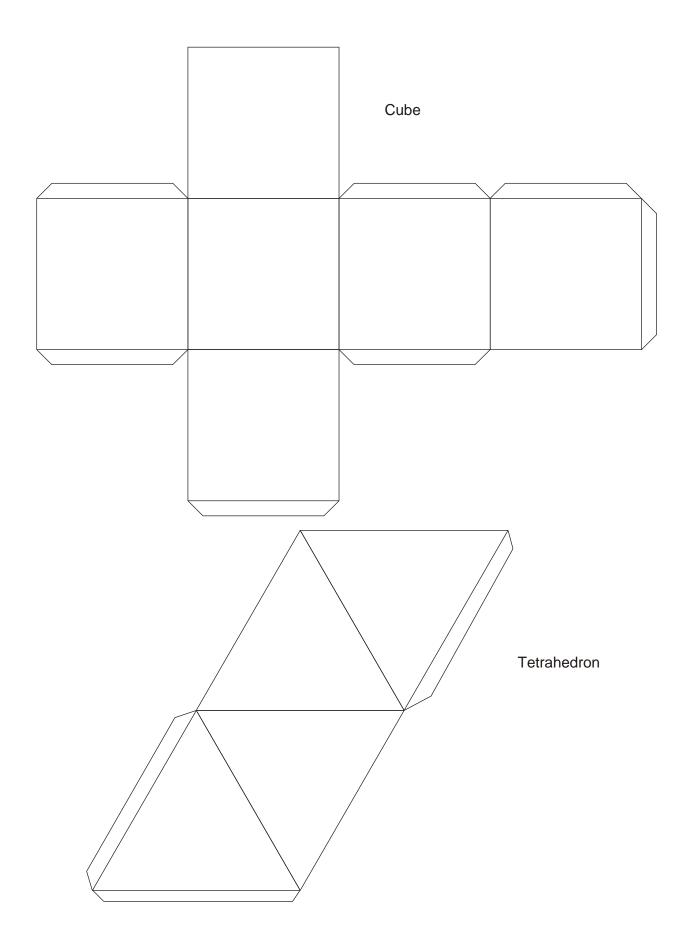


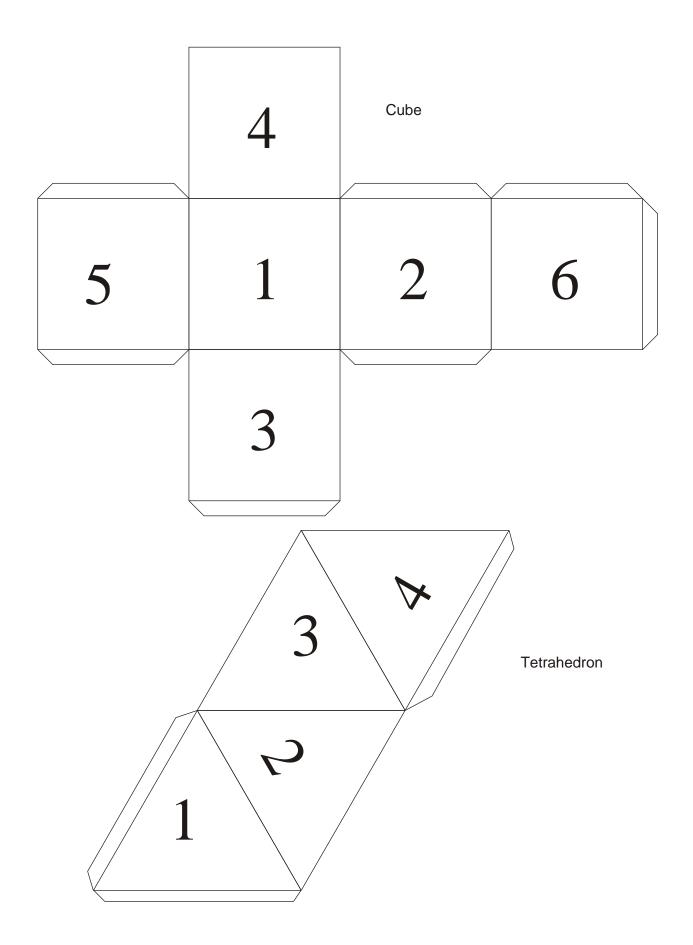


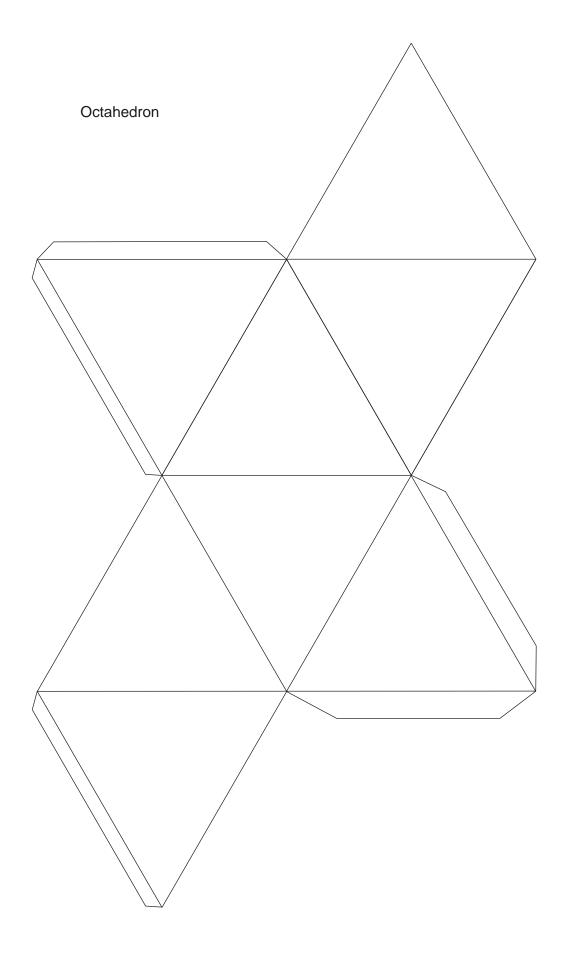




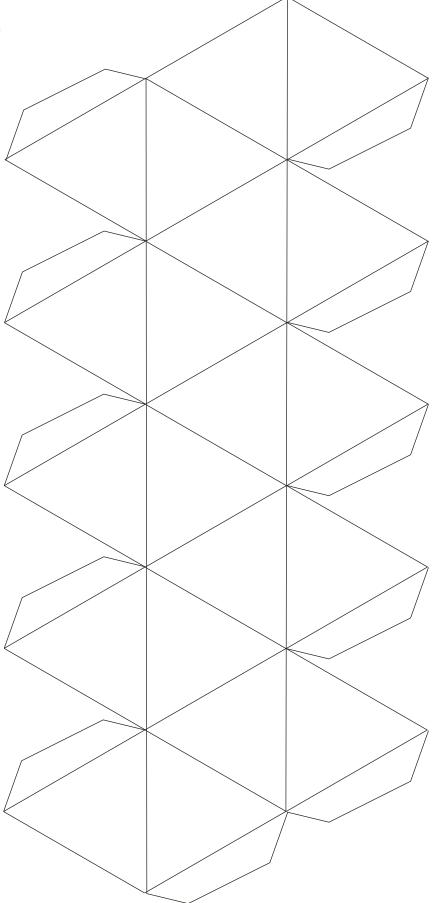


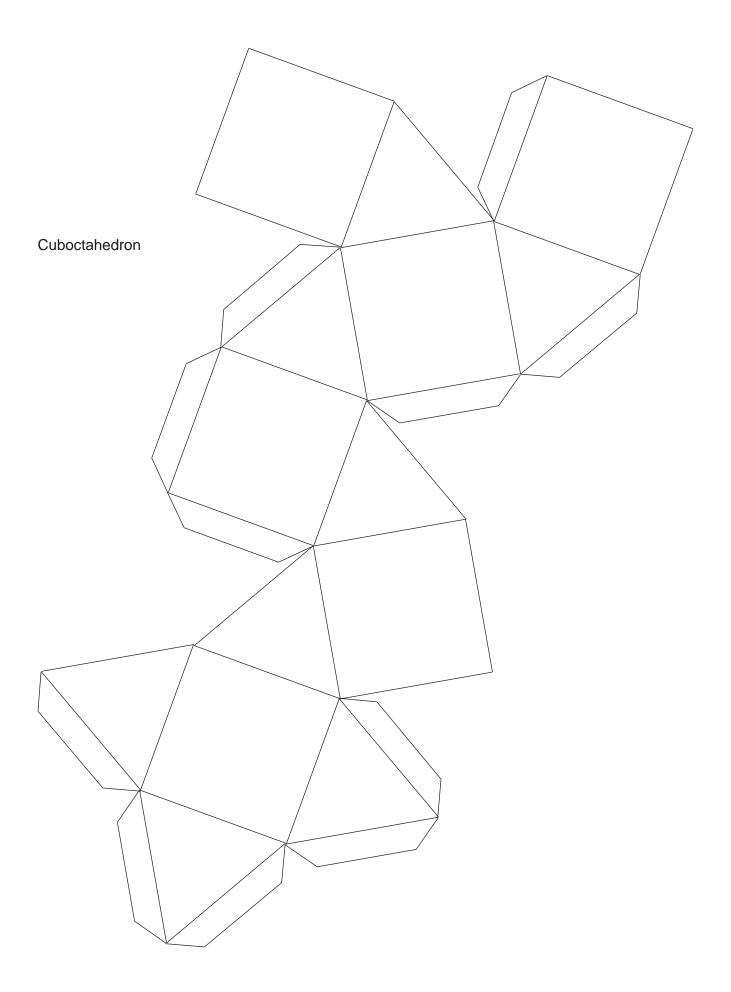




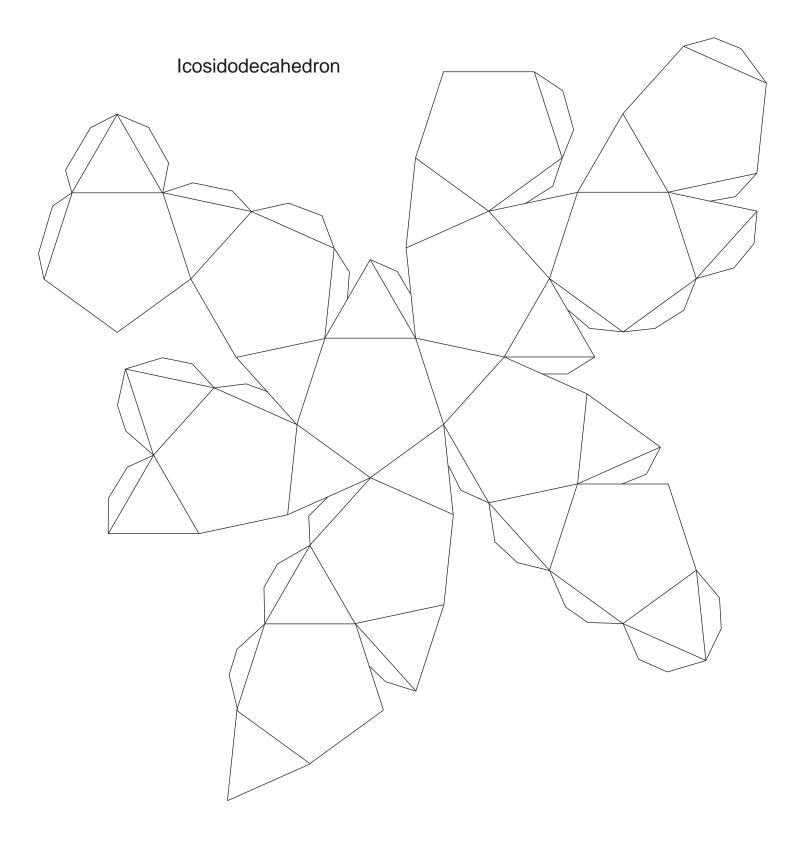


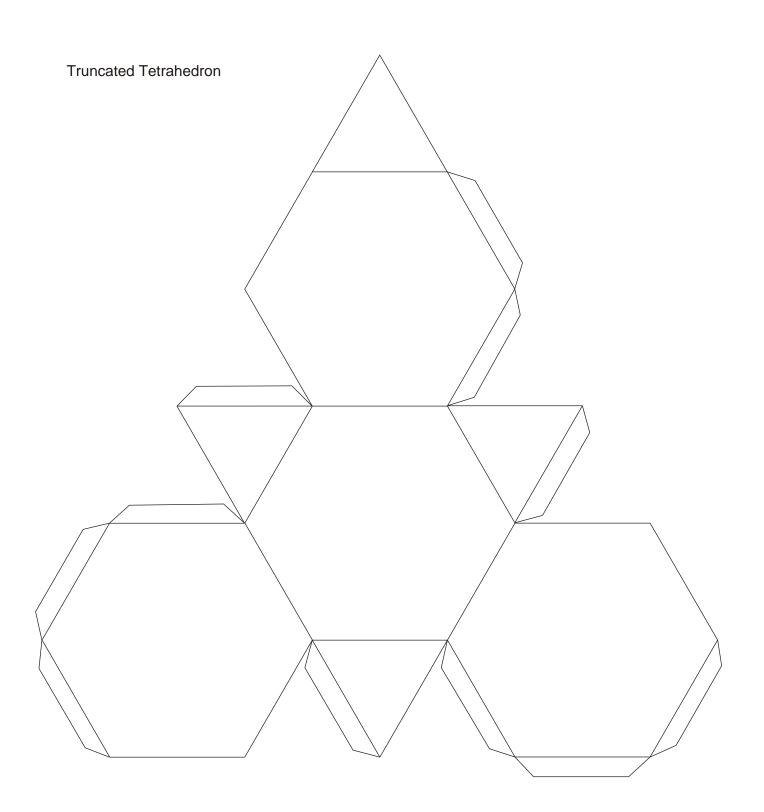


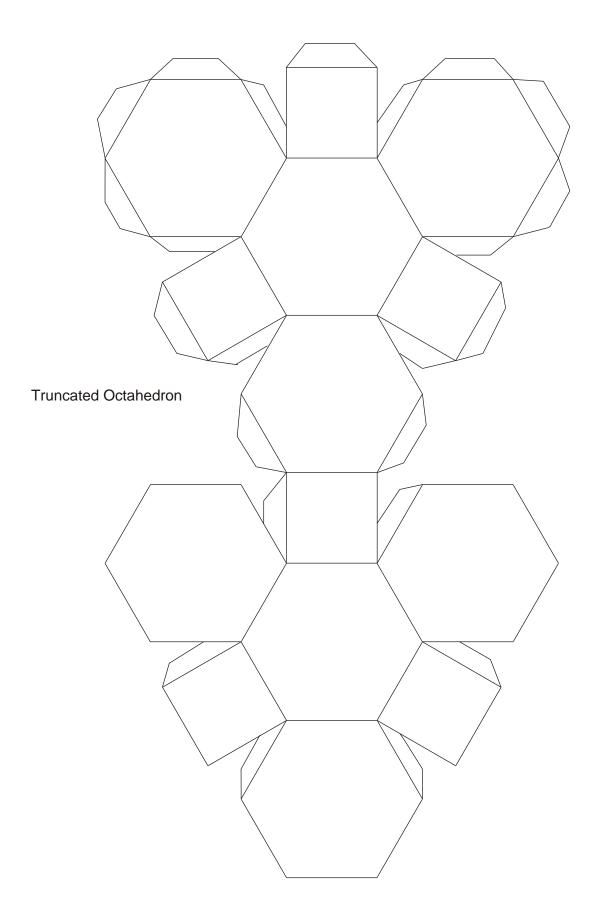


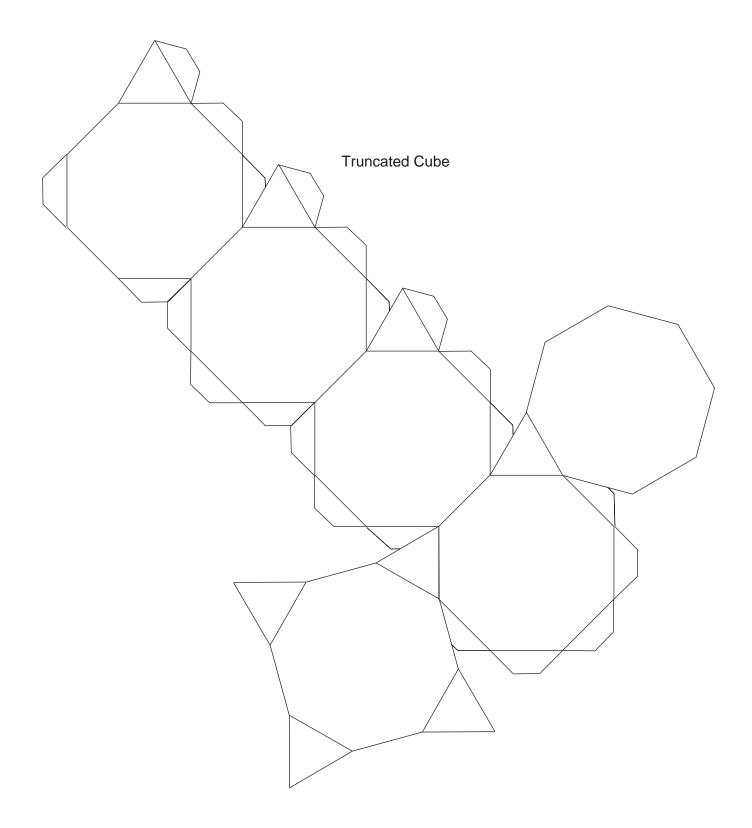


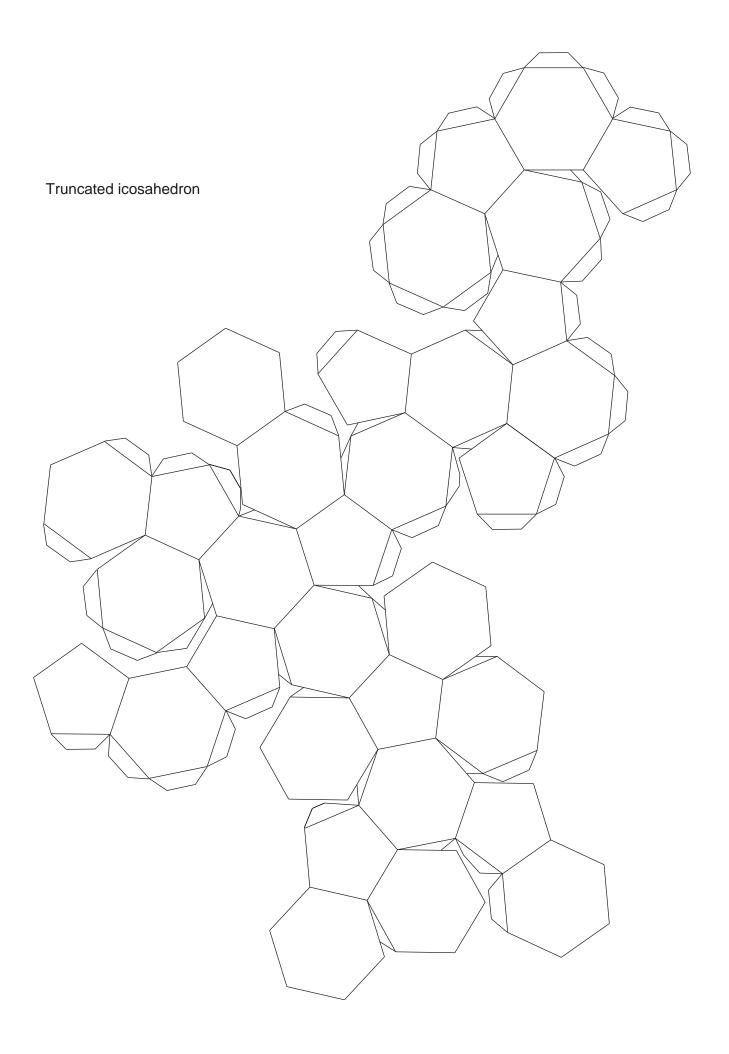


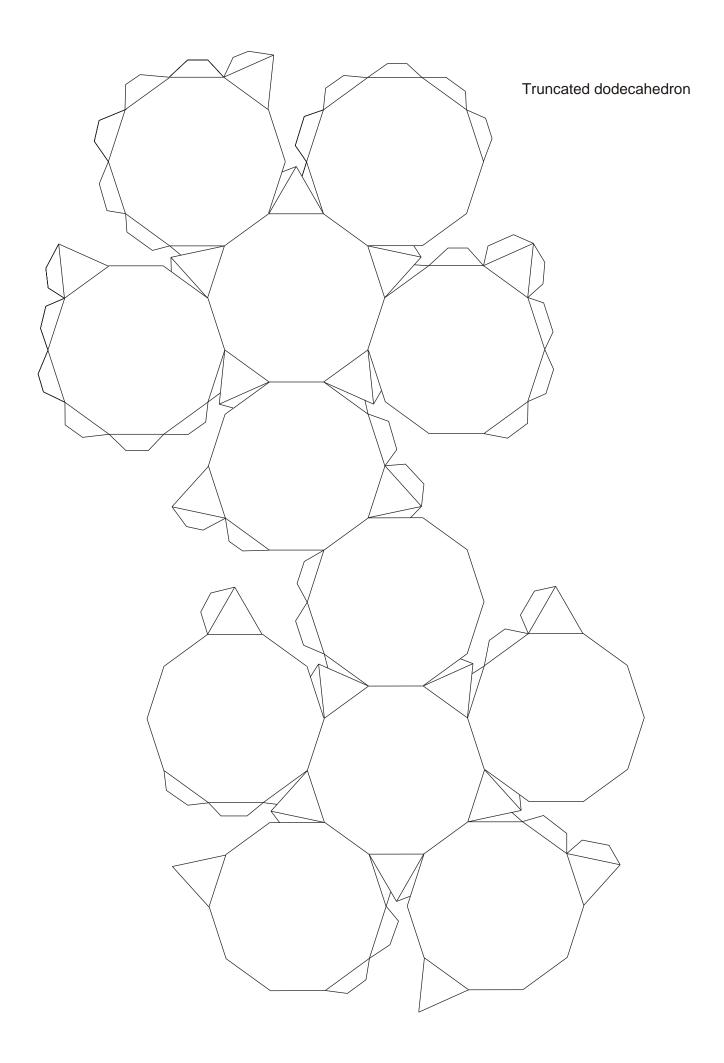


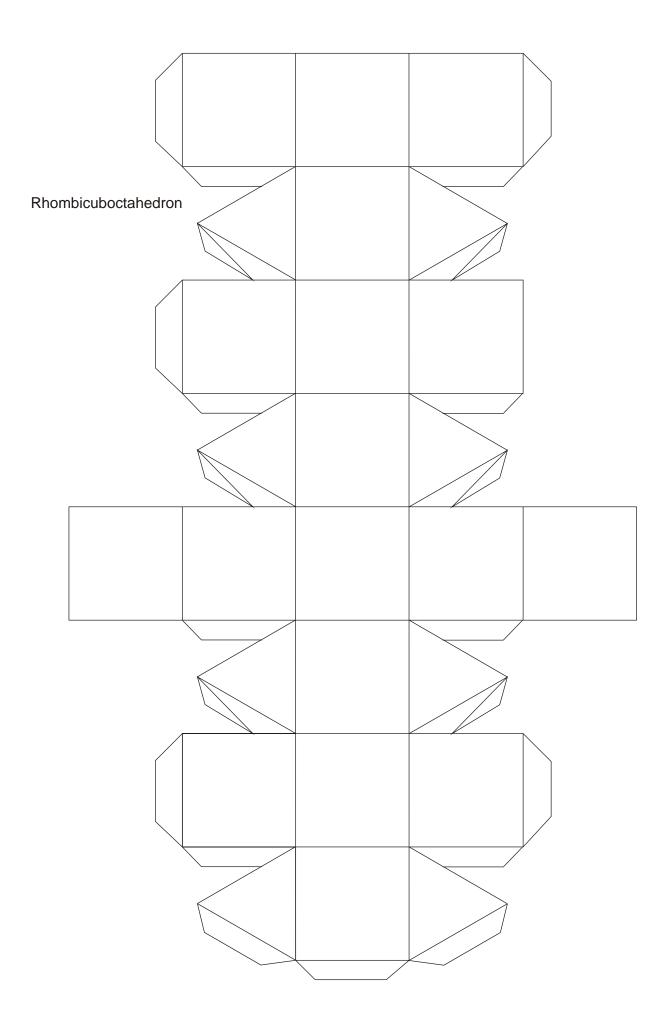


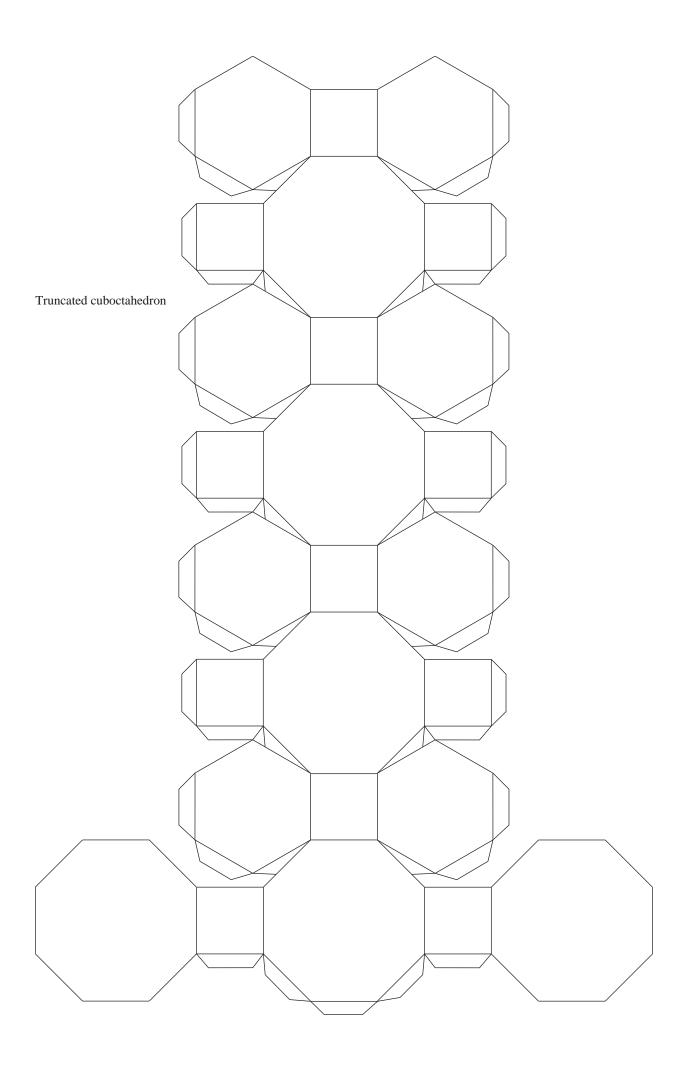


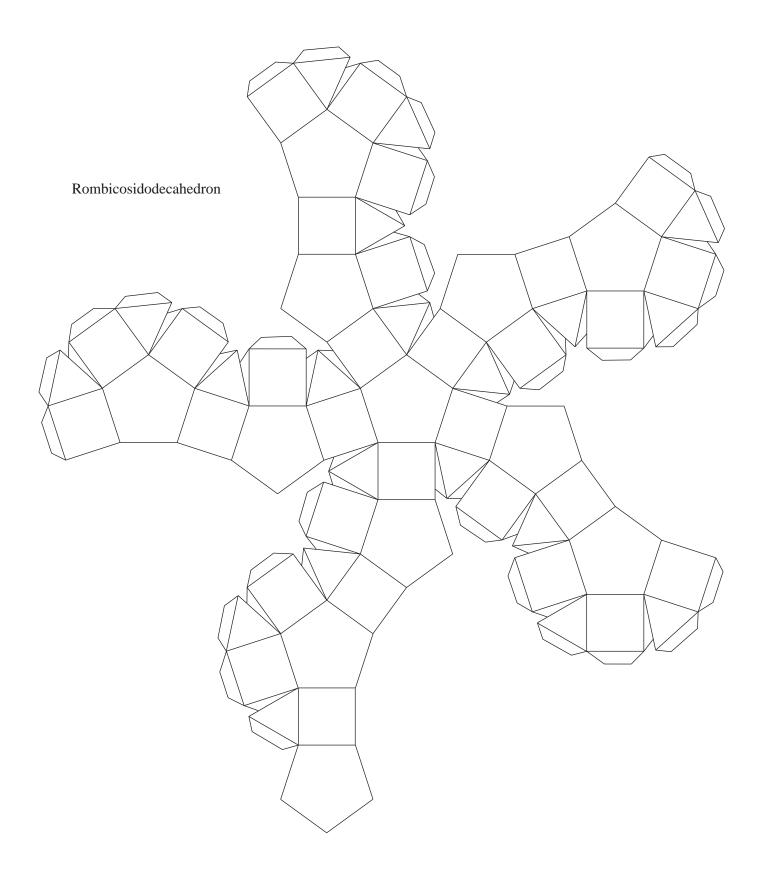


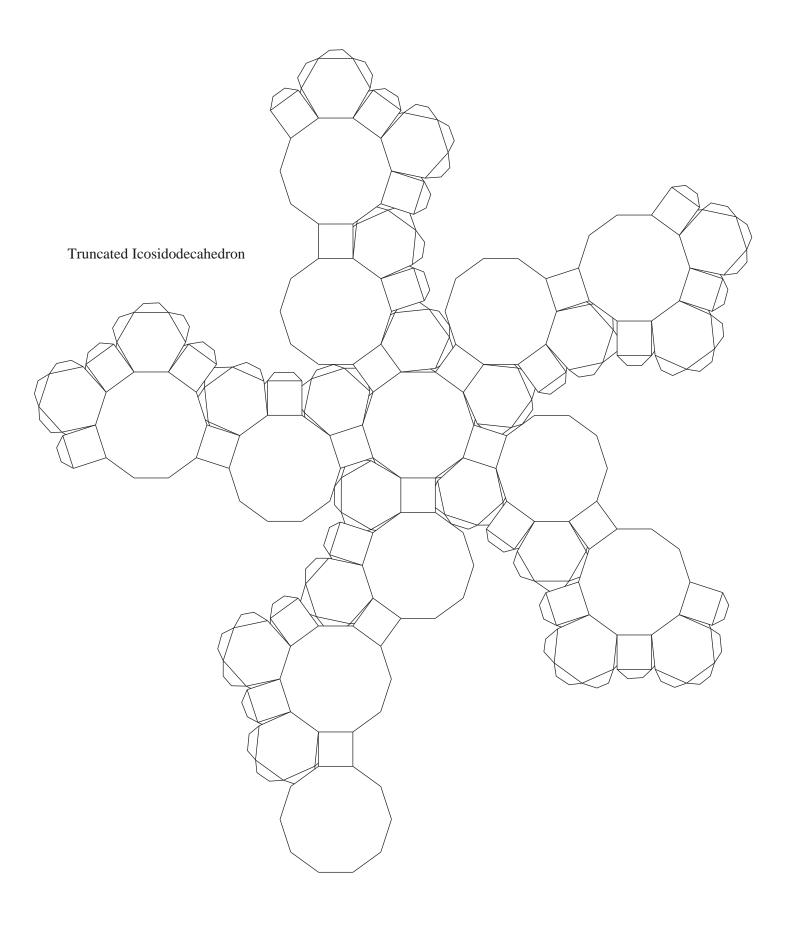


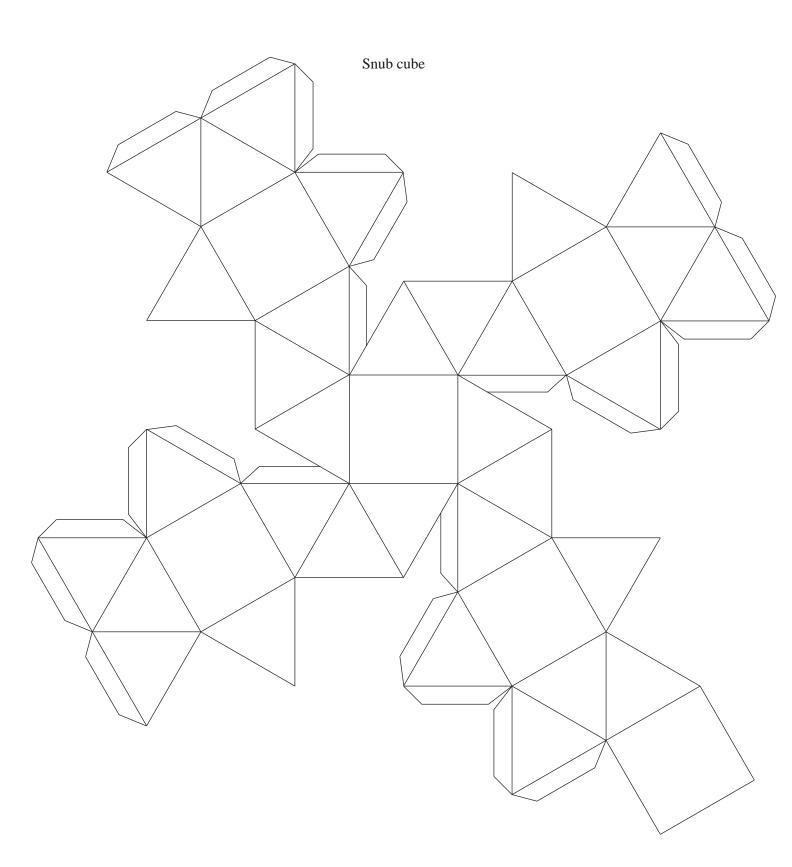


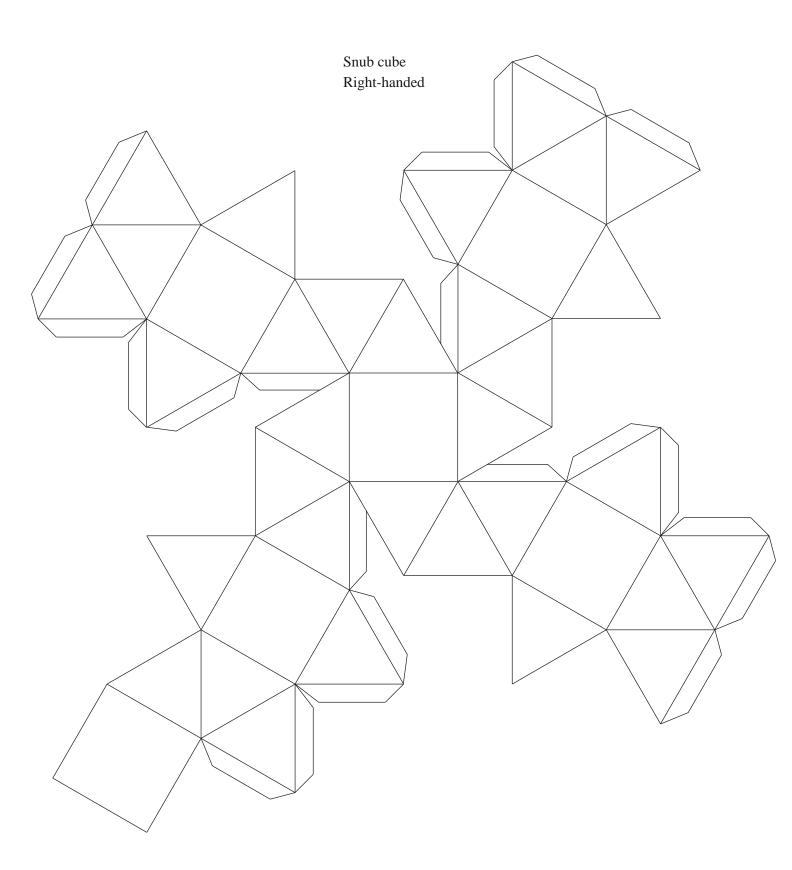


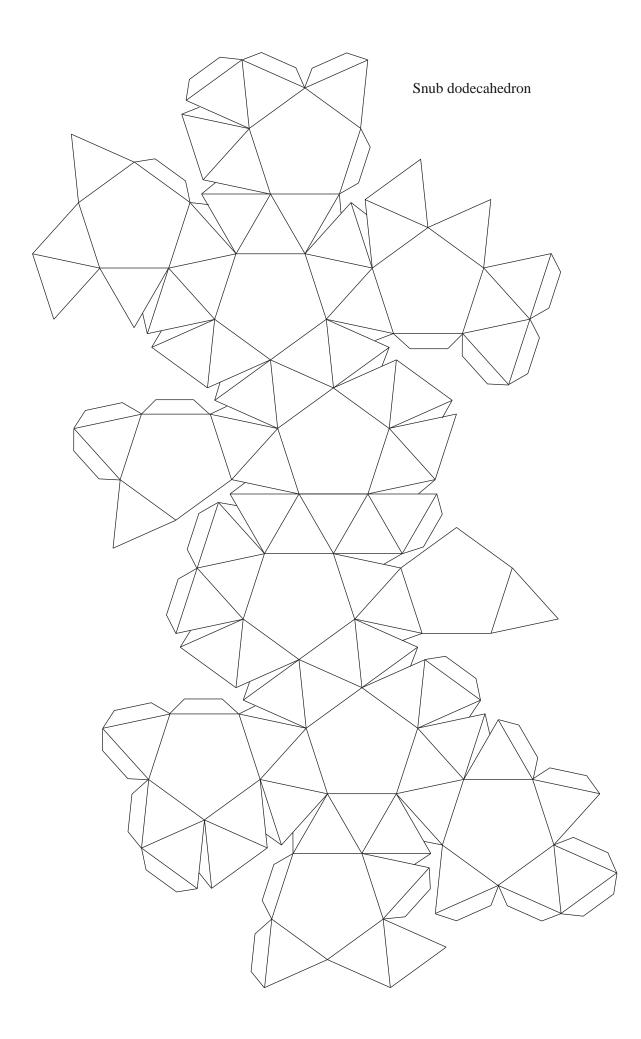


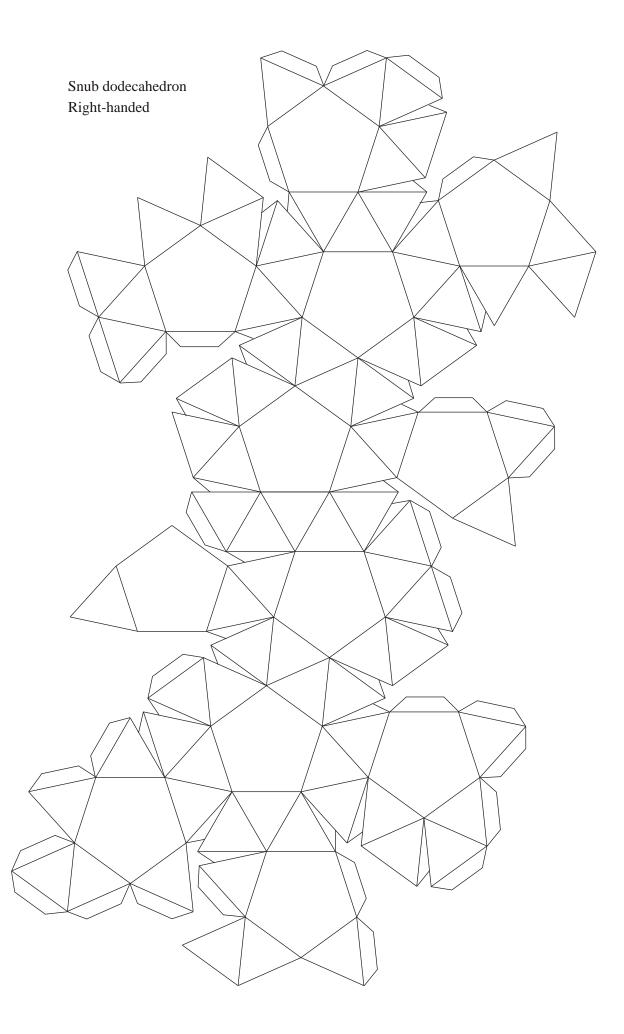


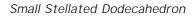




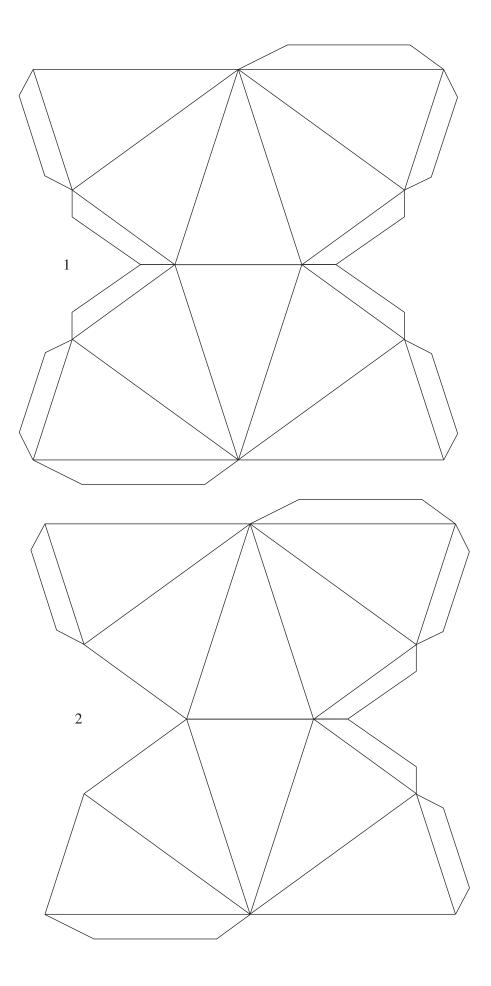


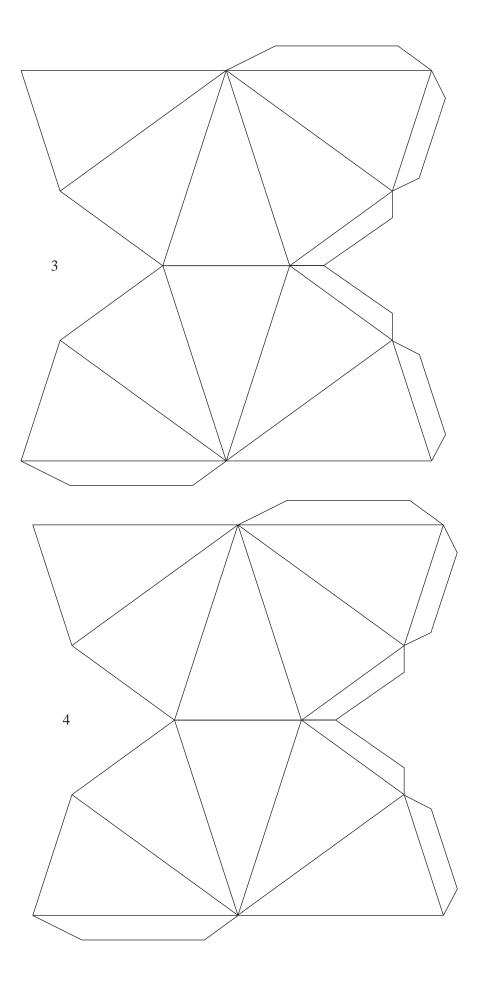


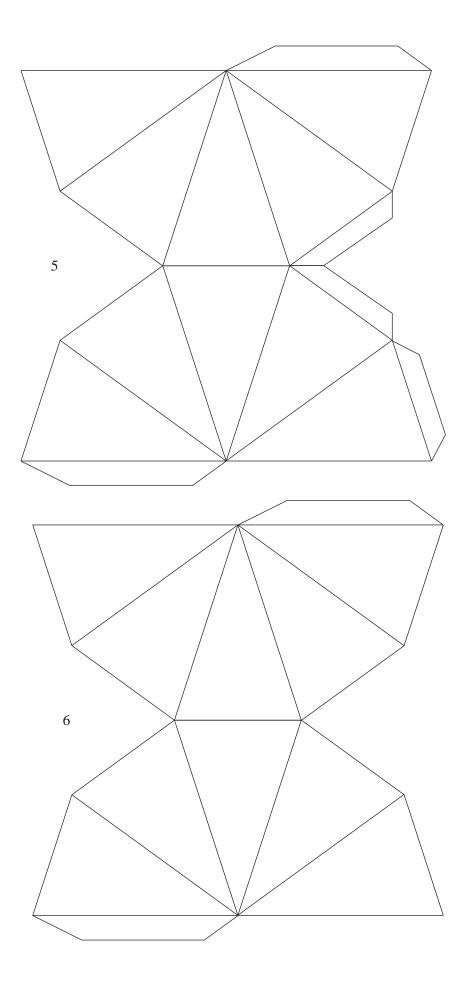


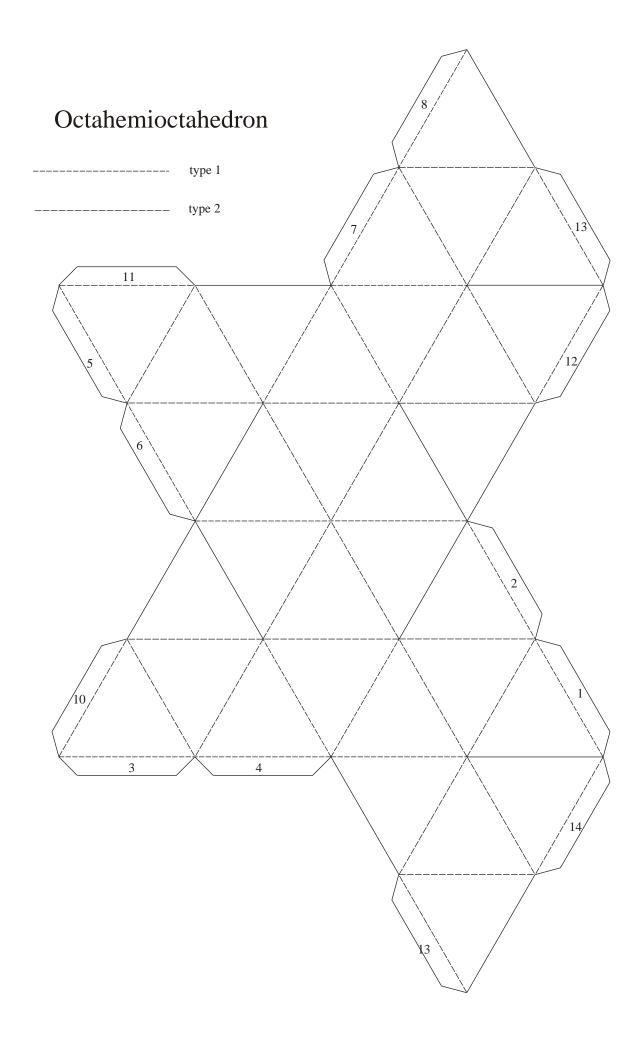


On this page a model out of one piece On the next pages a model out of six pieces. Fold the long lines backwards fold the short lines forwards

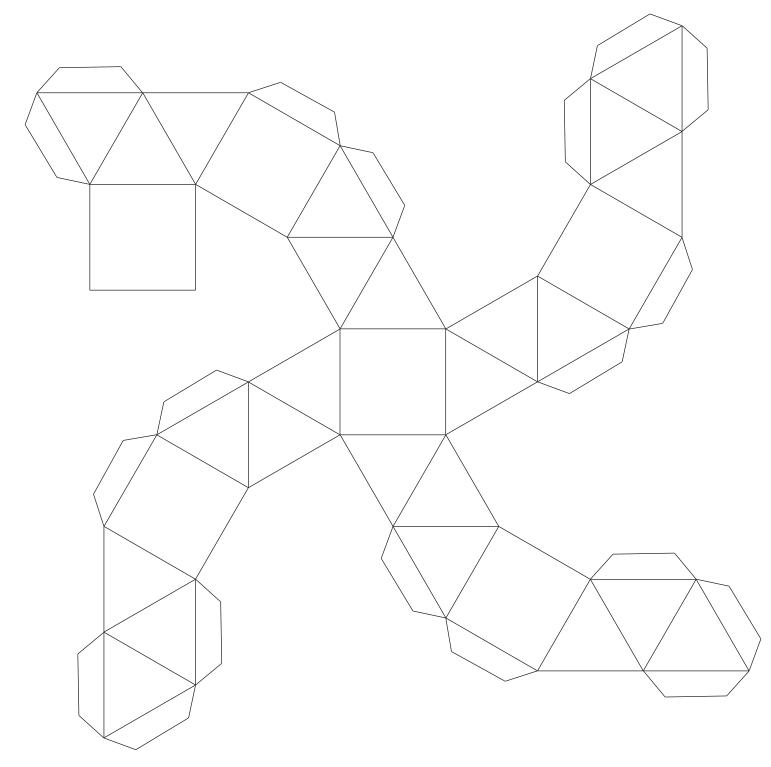








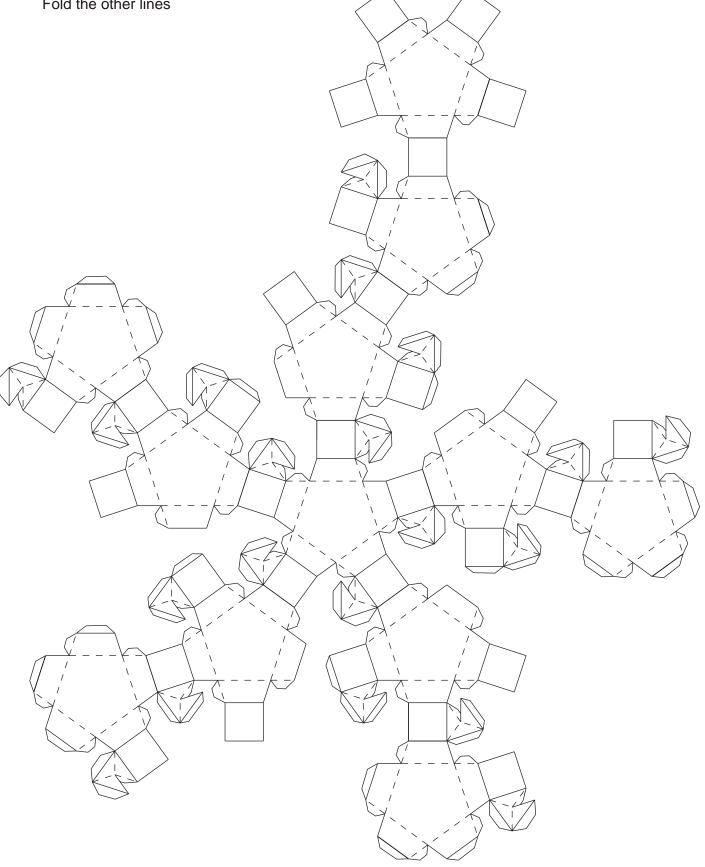
Cubohemioctahedron





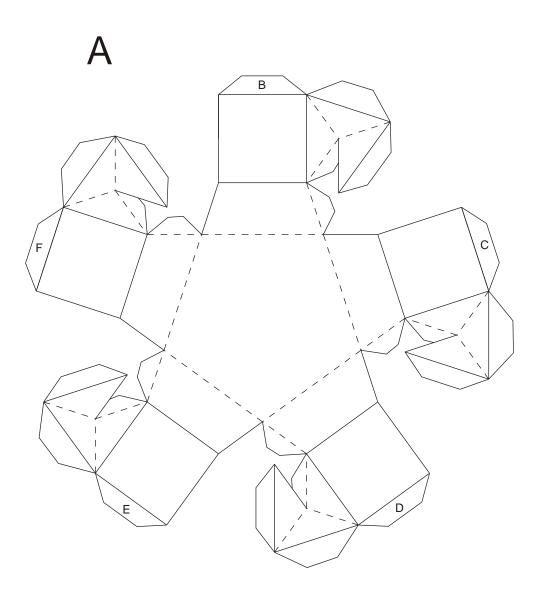
## Small Rhombidodecahedron

(small version) Fold the dotted lines forwards Fold the other lines

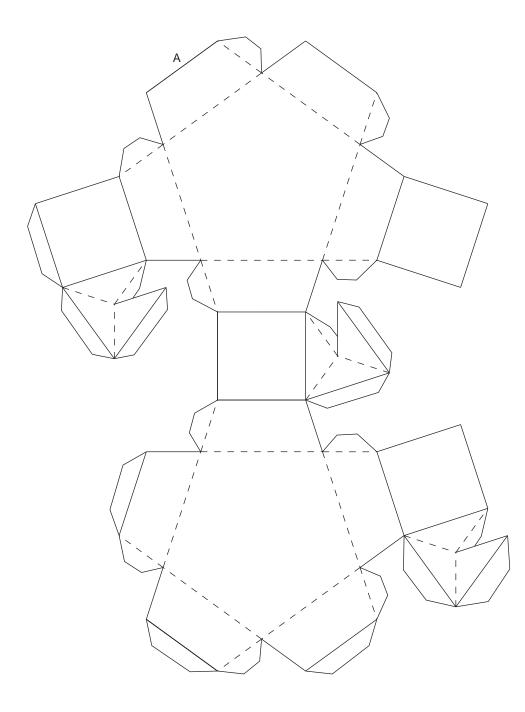


## Small Rhombidodecahedron

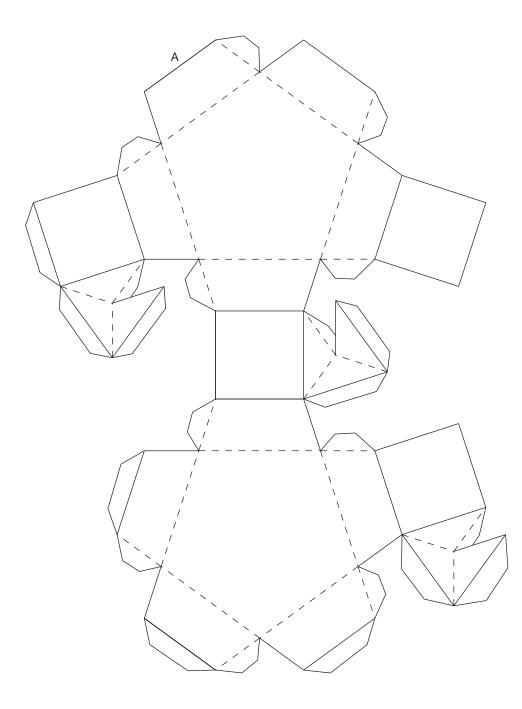
(large version) Fold the dotted lines forwards Fold the other lines

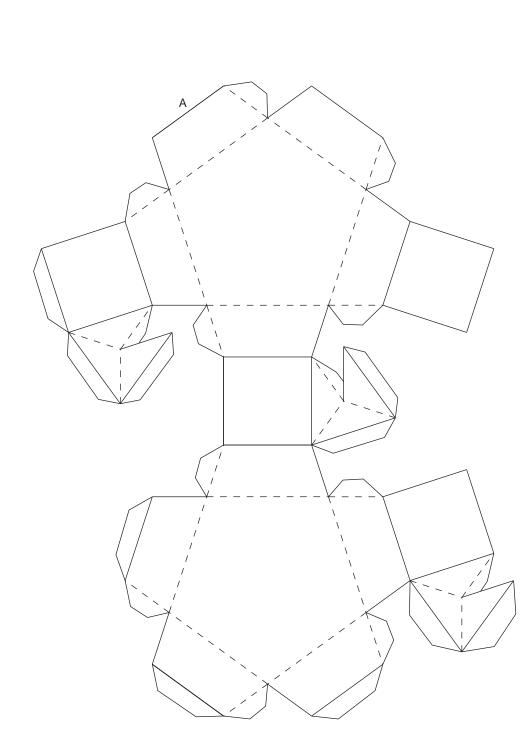


В



С

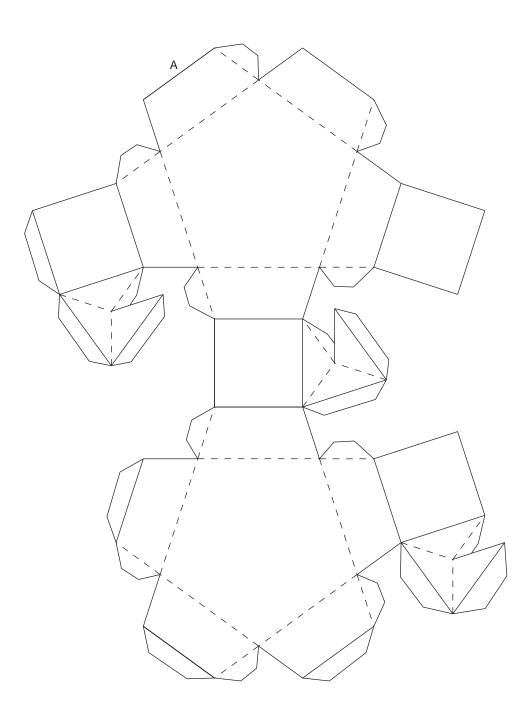


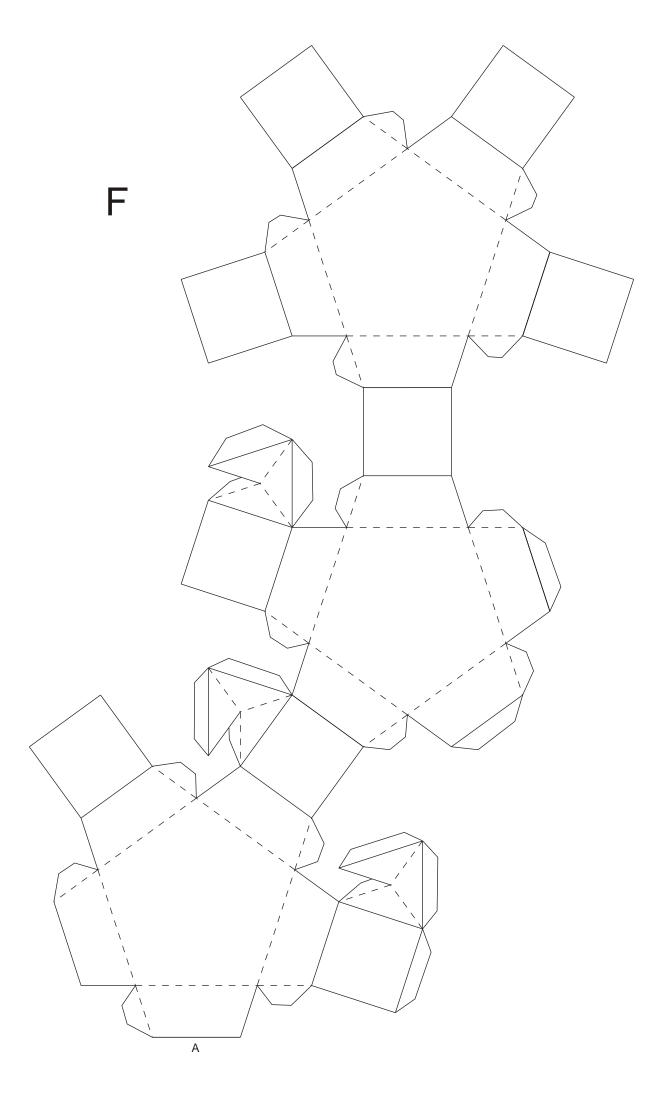


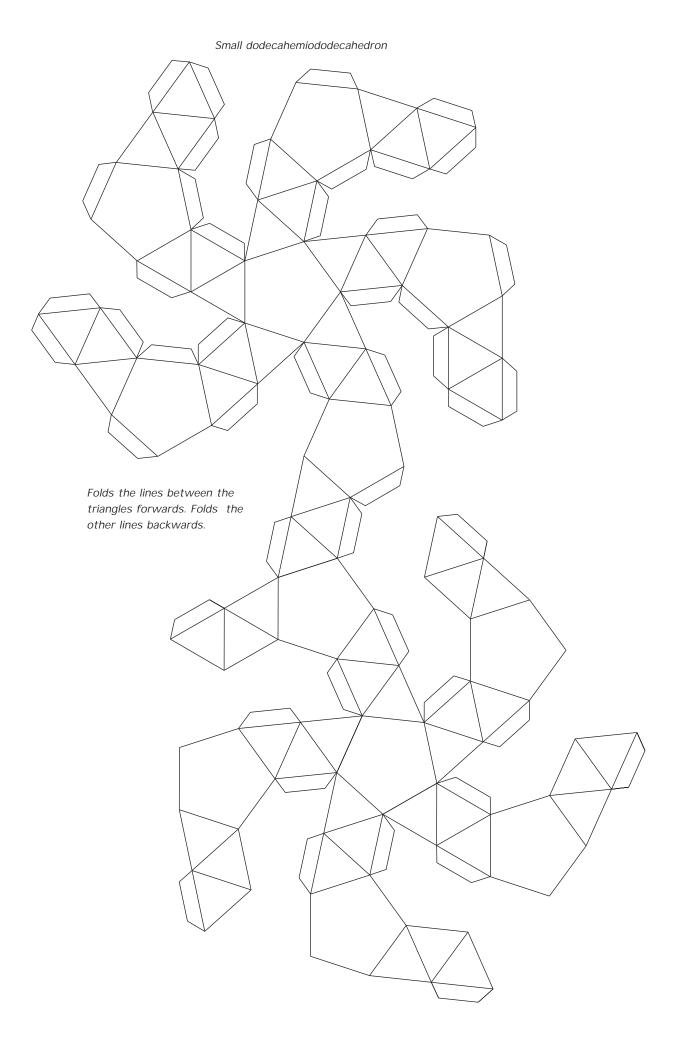
D

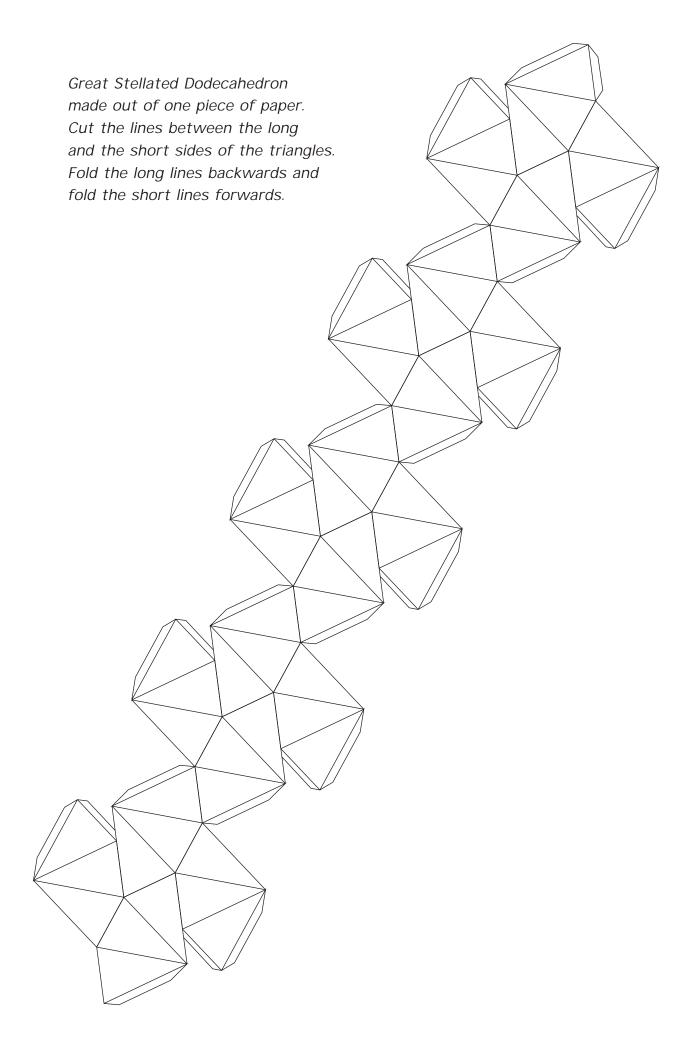






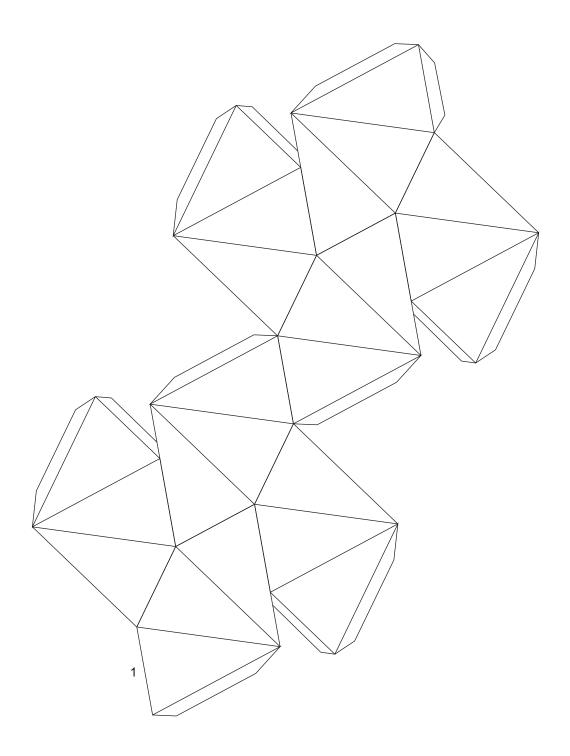


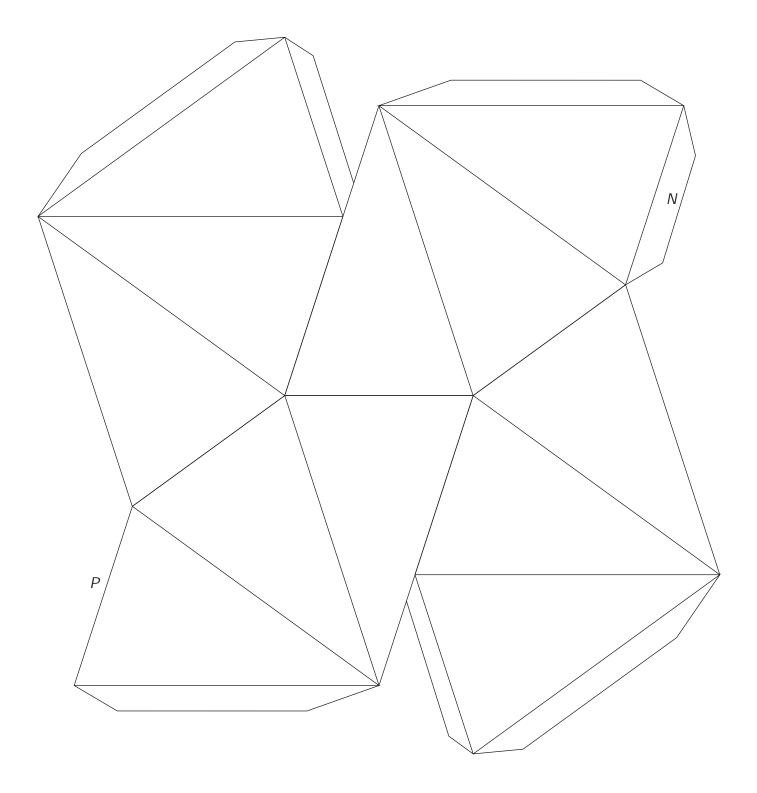


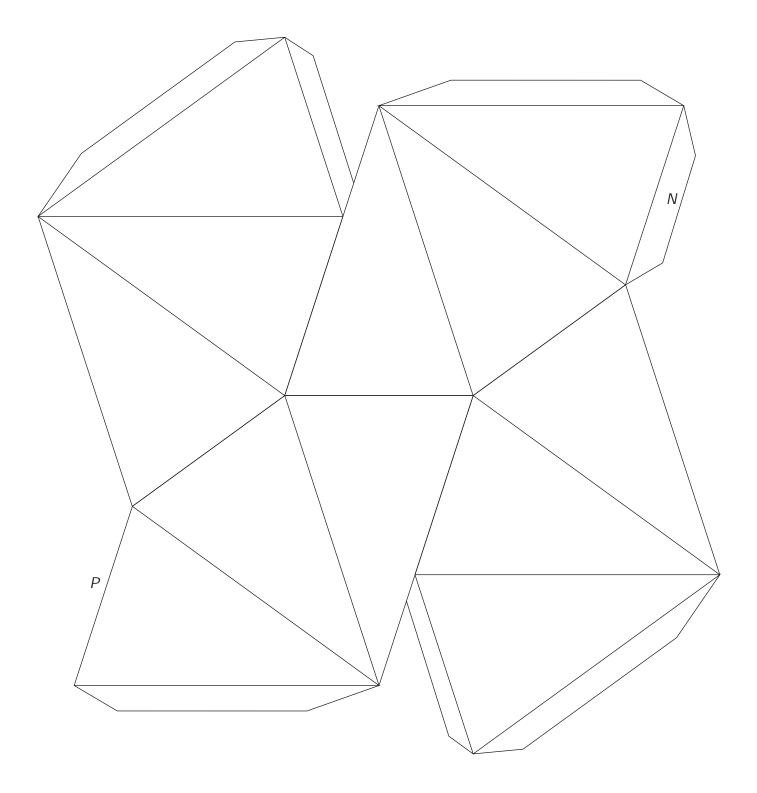


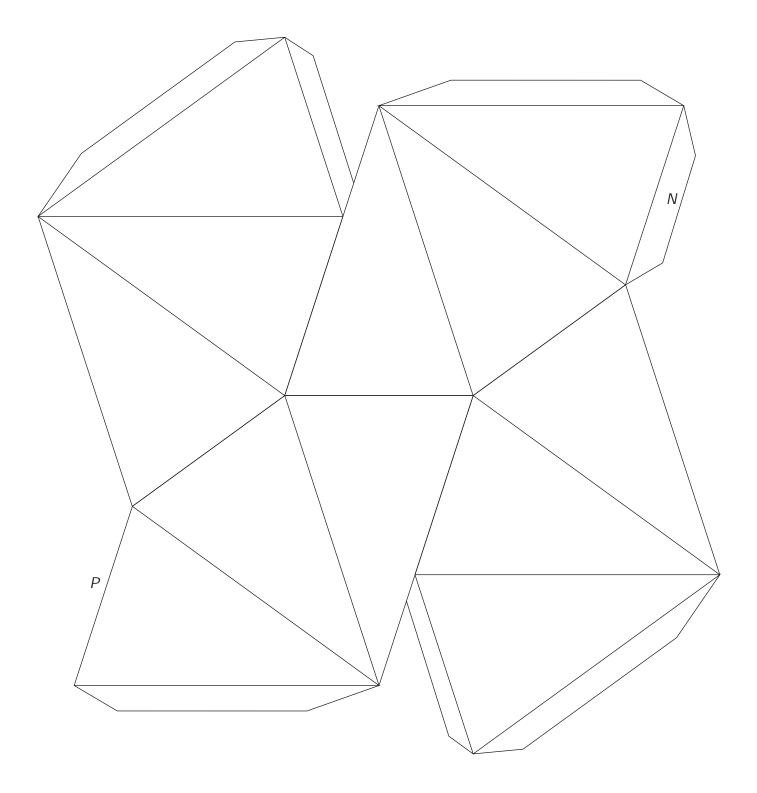
Great Stellated Dodecahedron made out of two pieces of paper. Cut the lines between the long and the short sides of the triangles. Fold the long lines backwards and fold the short lines forwards. This is piece one. On the next page is piece two.

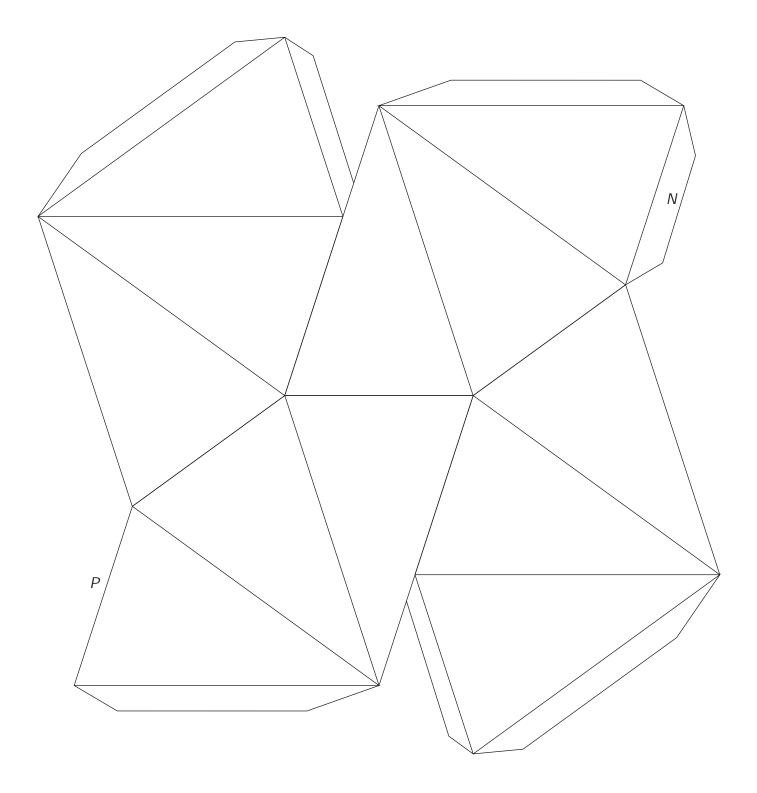
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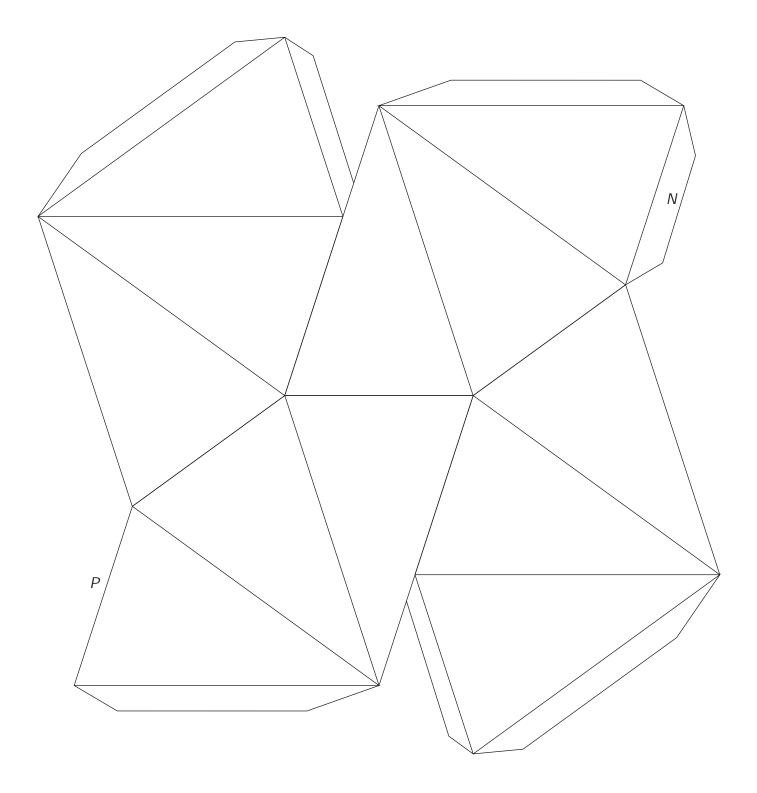


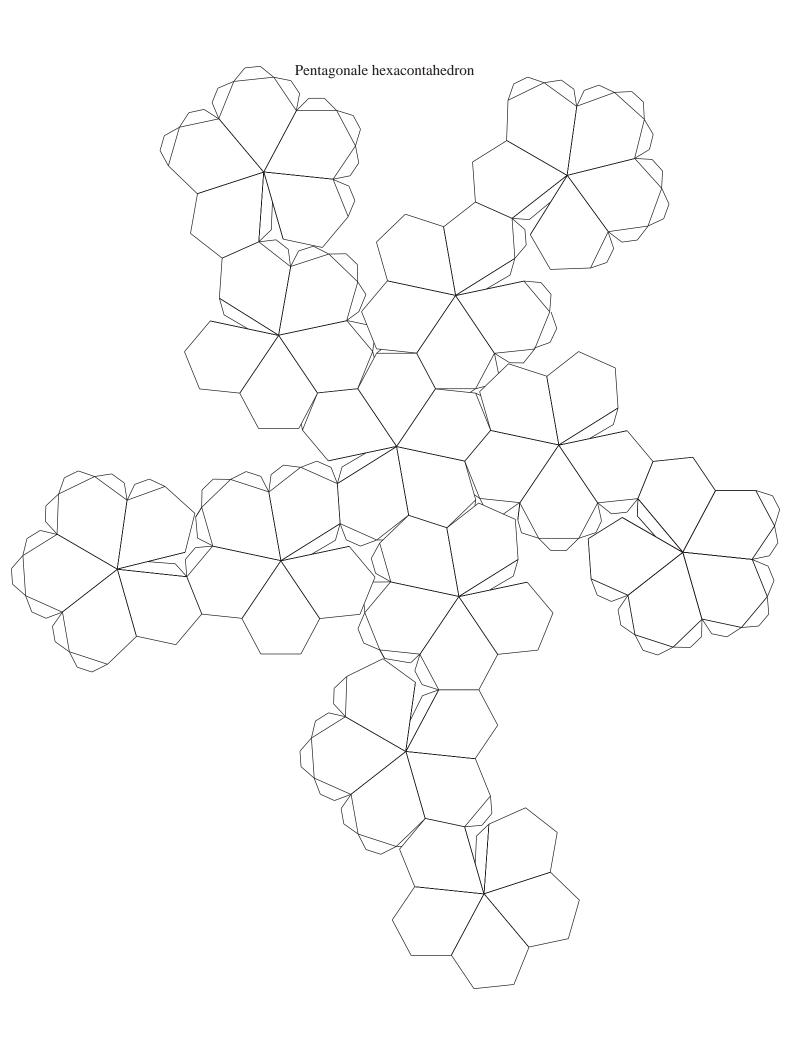


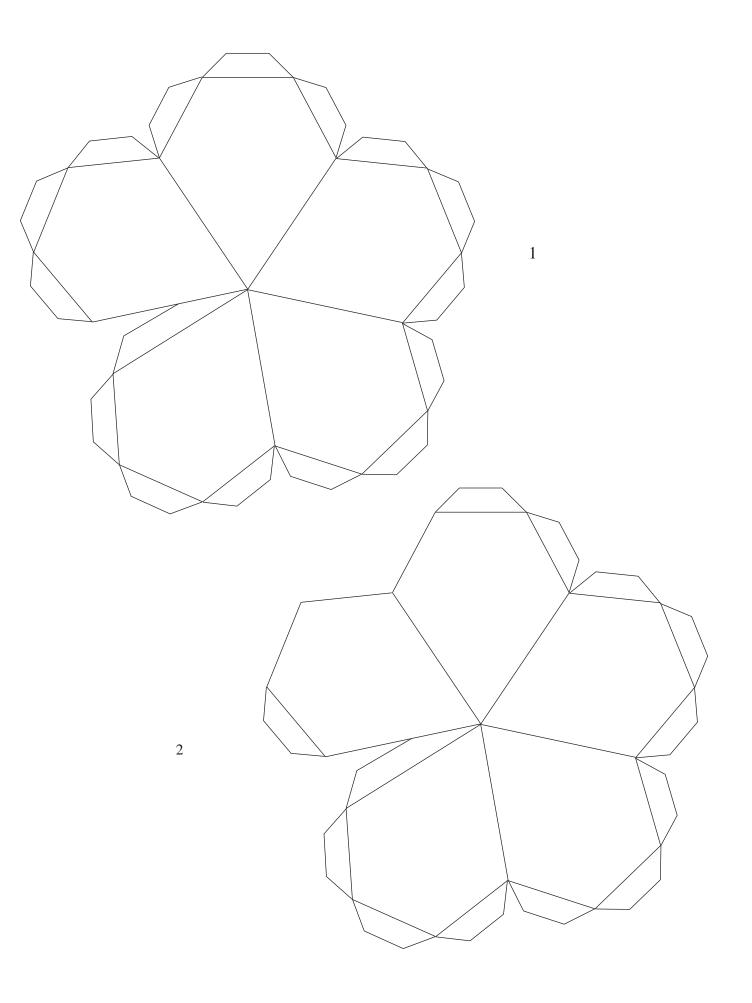


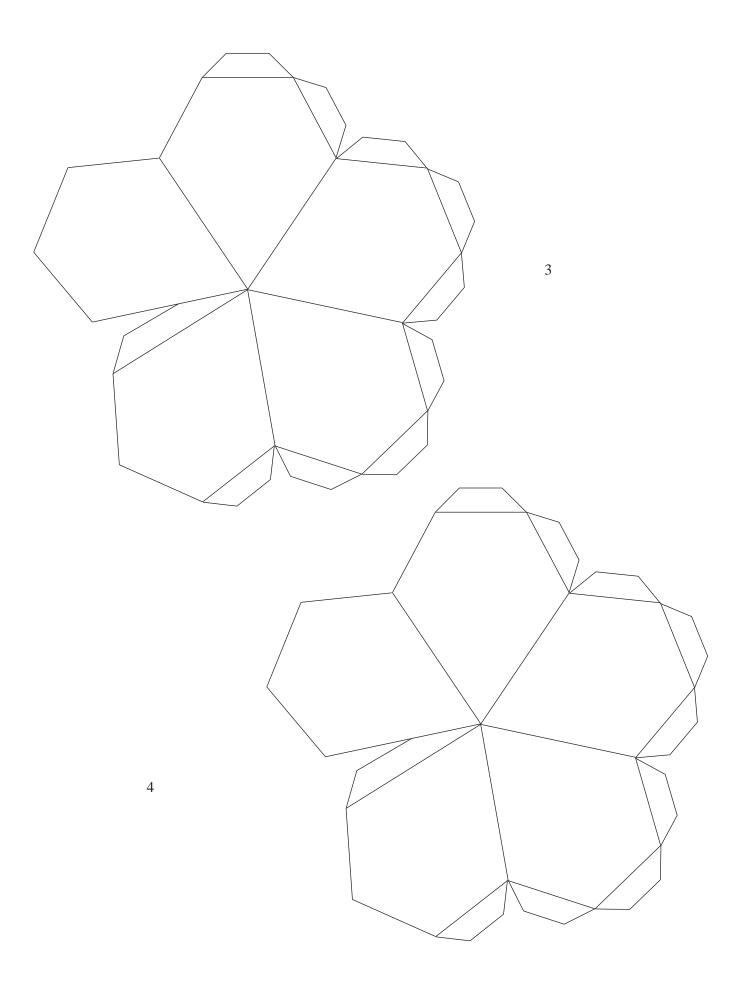


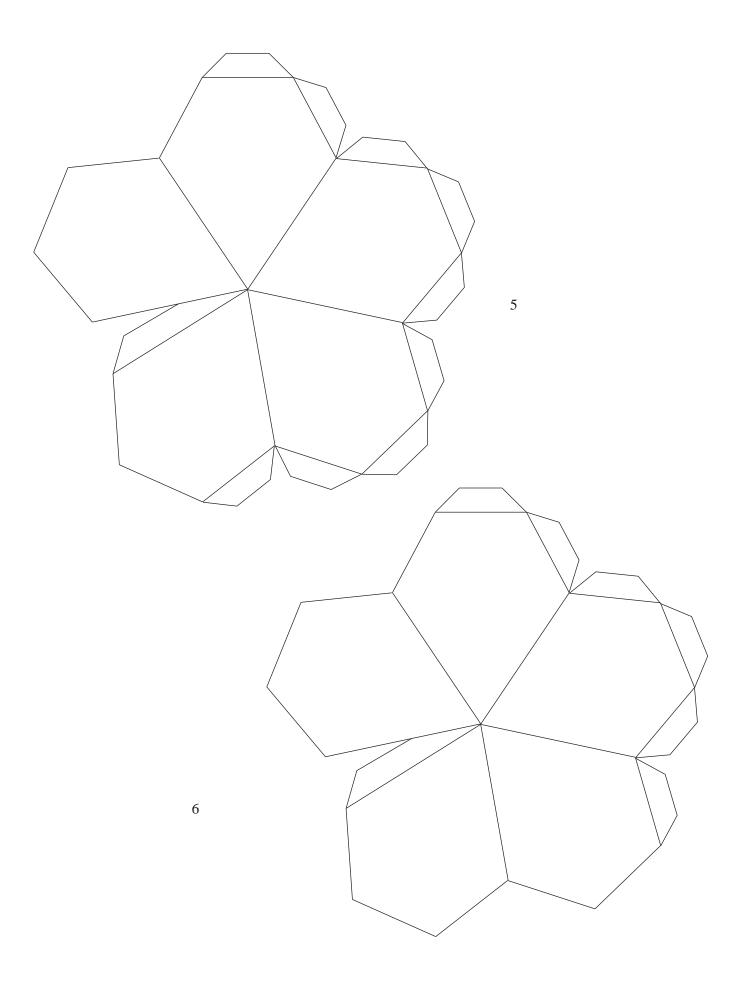


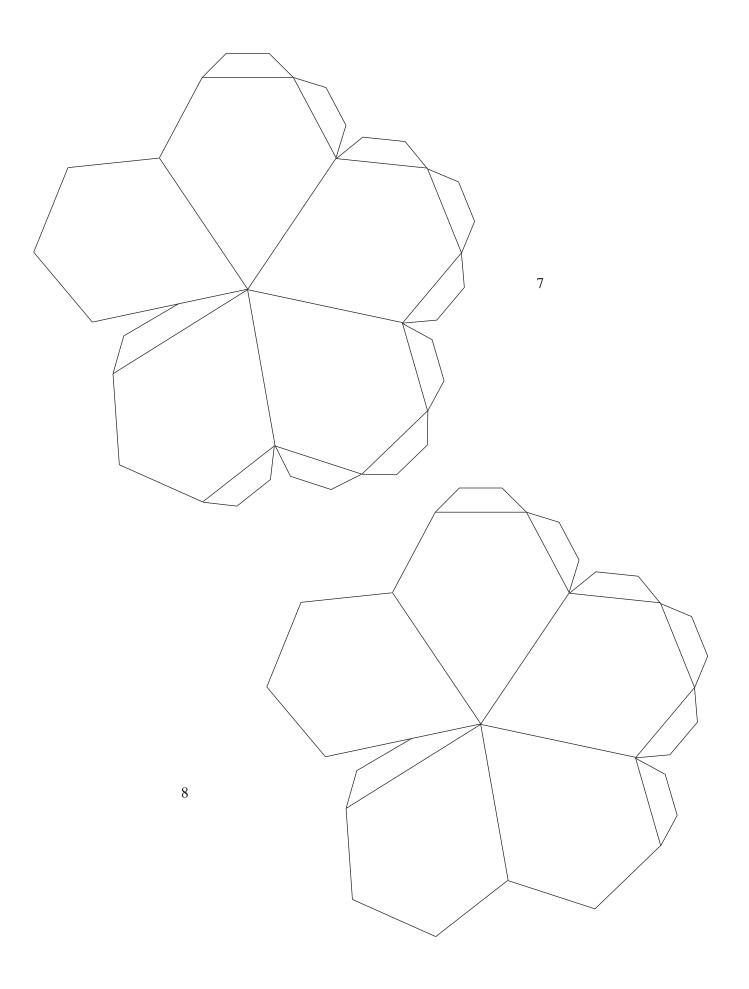


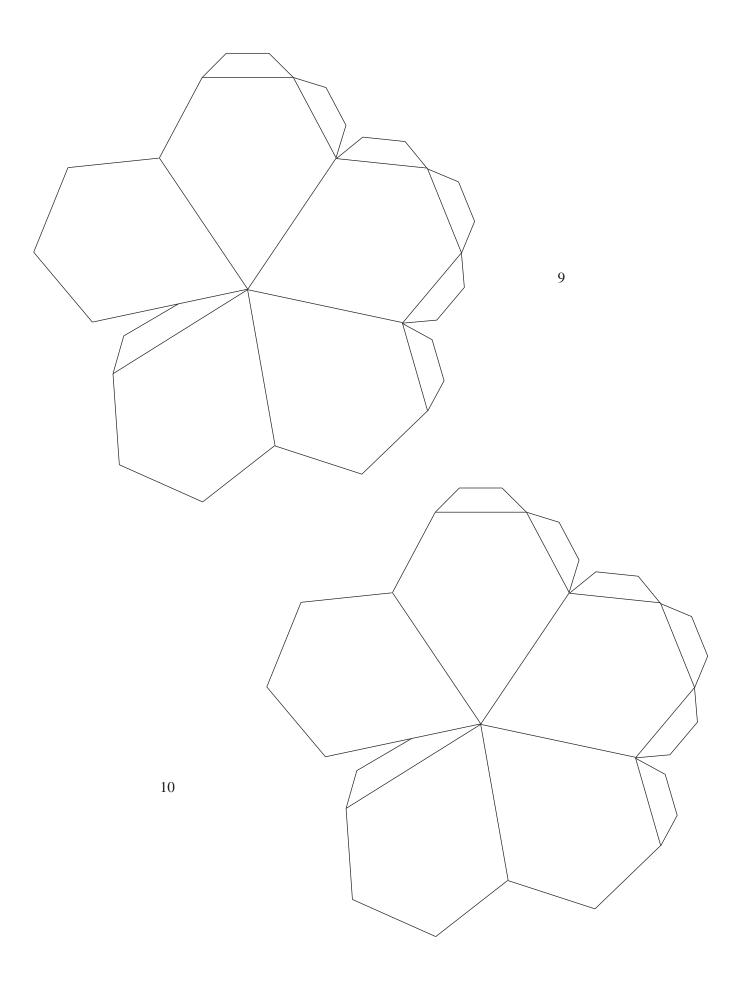


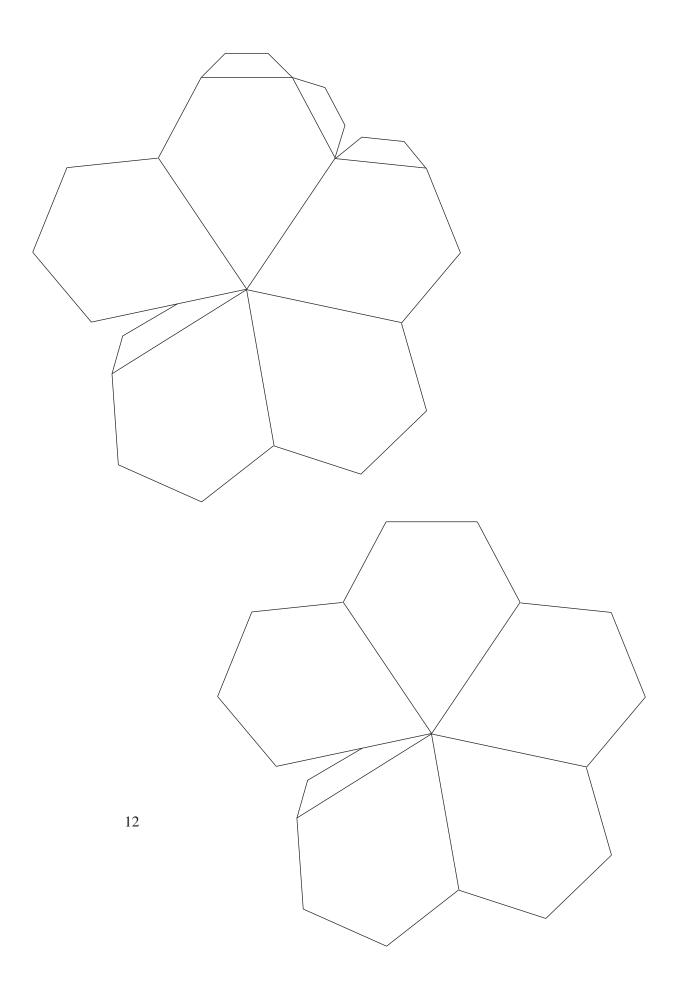


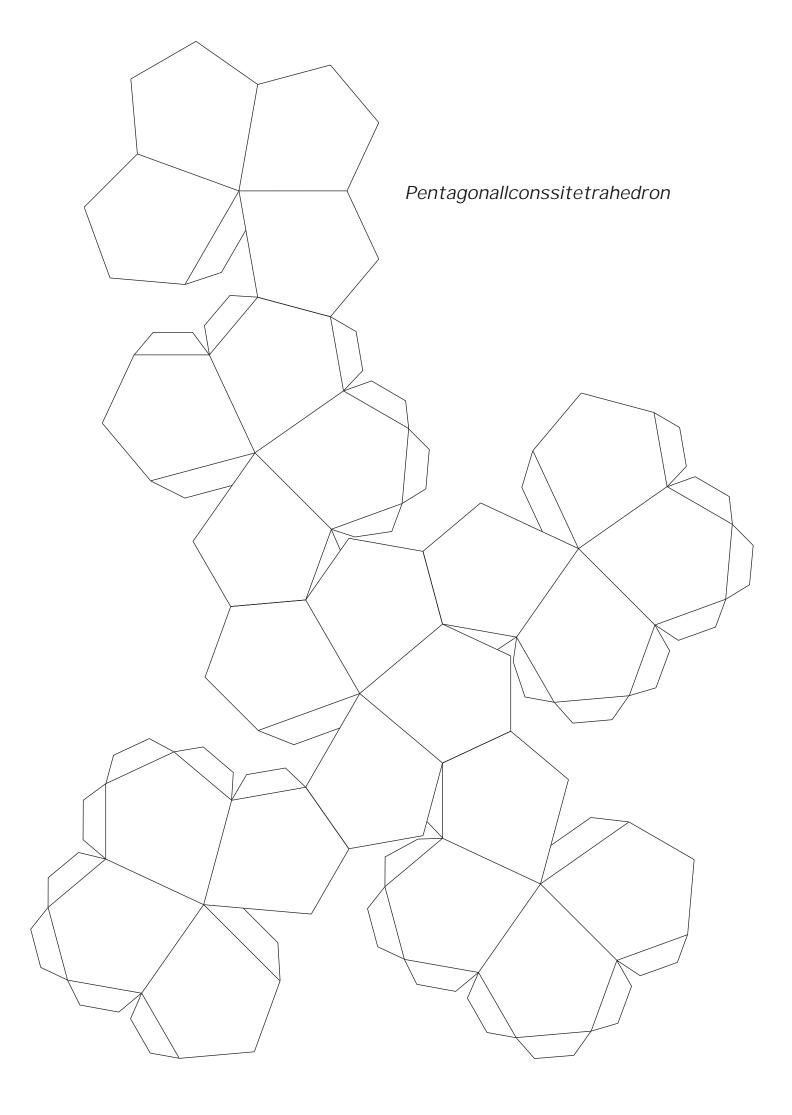


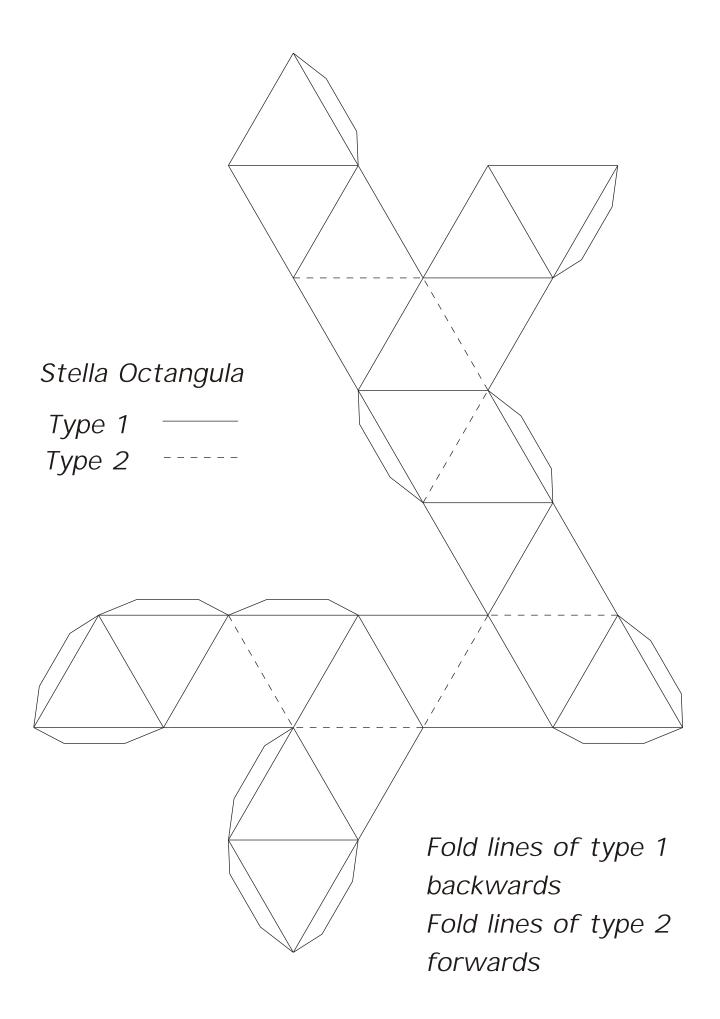


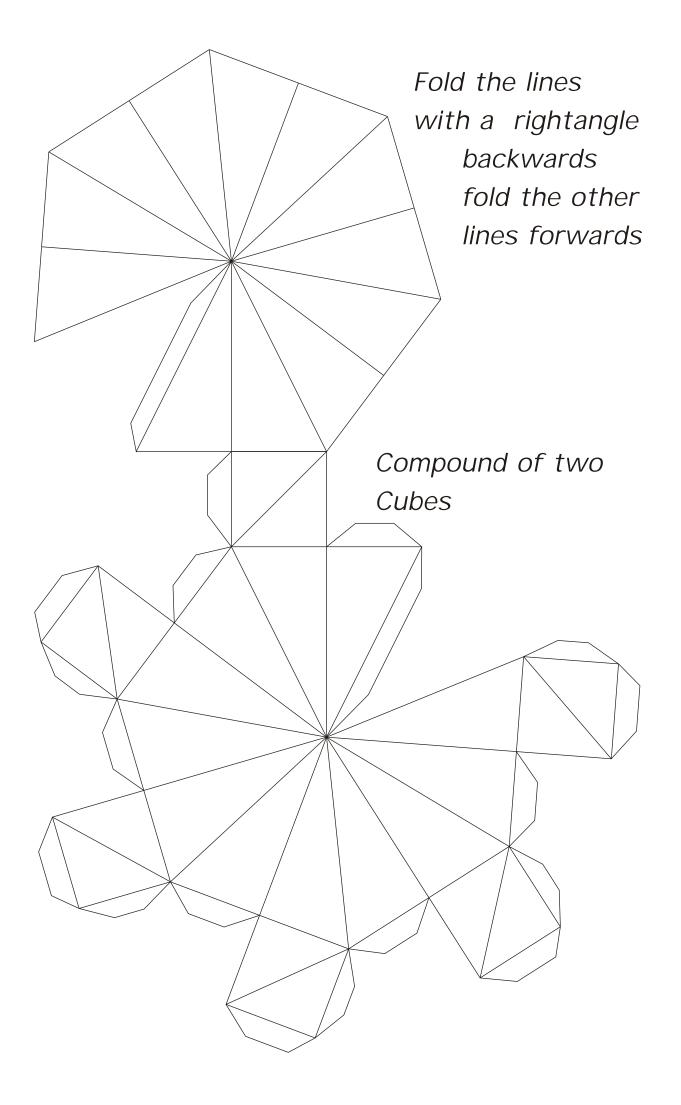








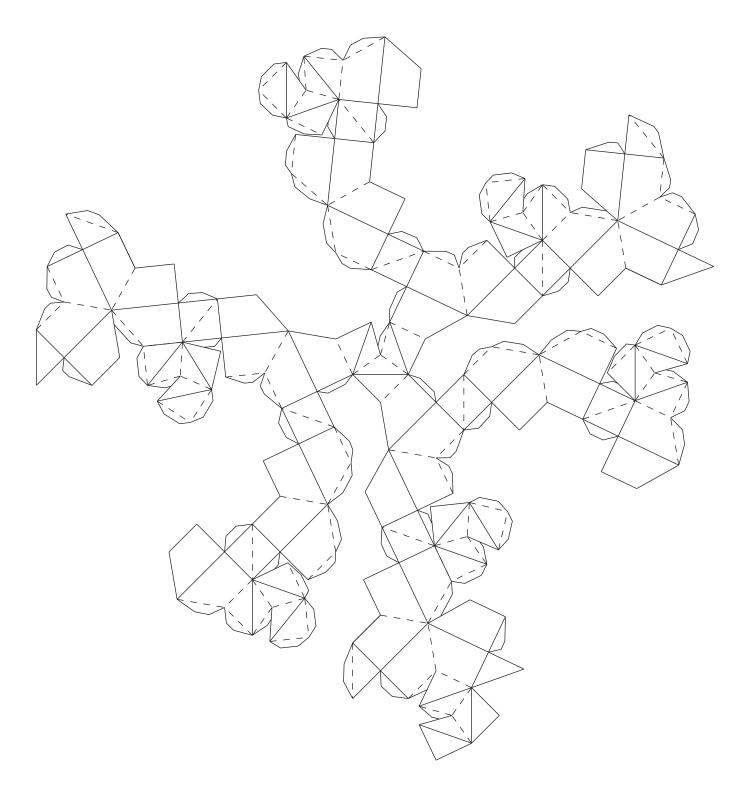






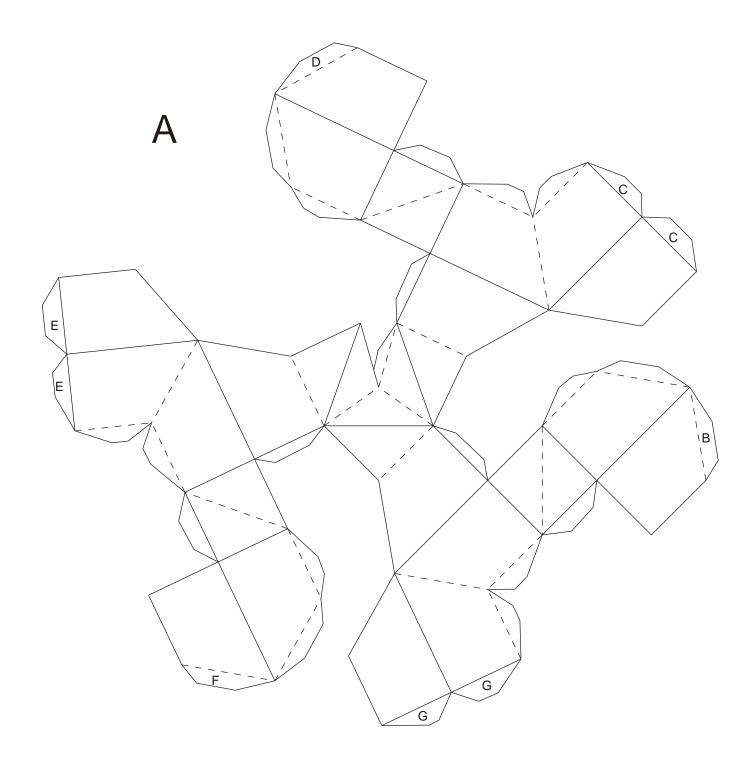
# Compound of Three Cubes

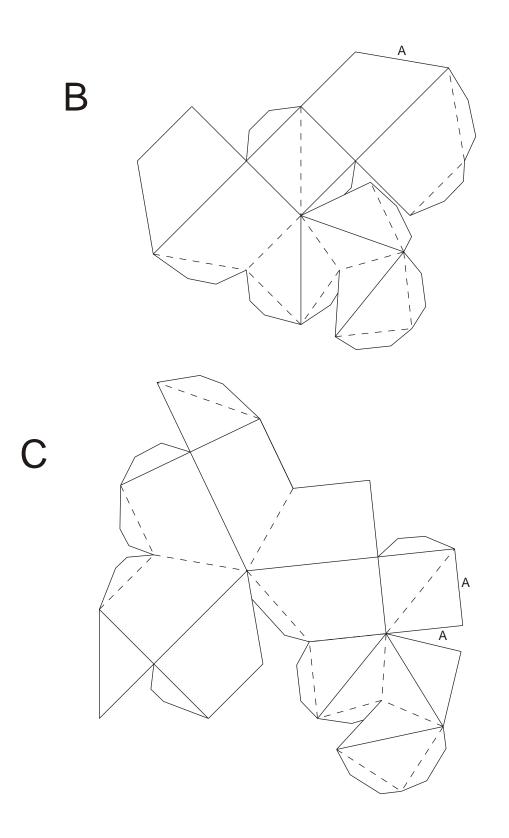
(Small version) Fold the dotted liines forwards Fold the other lines backwards

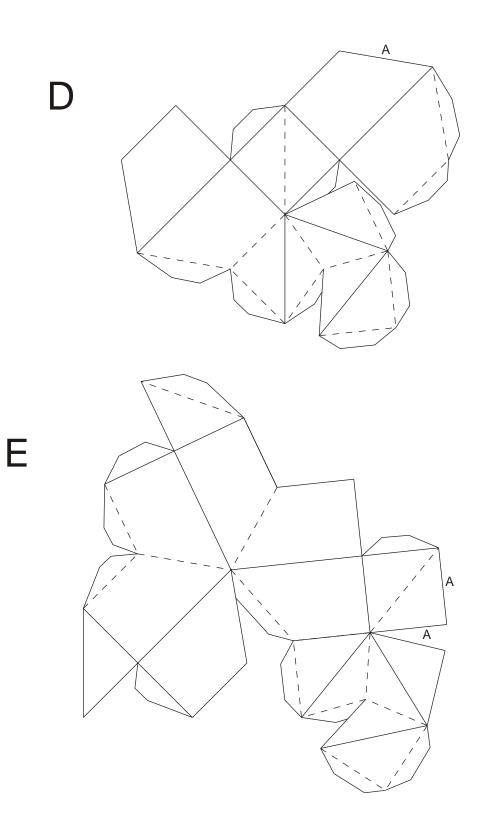


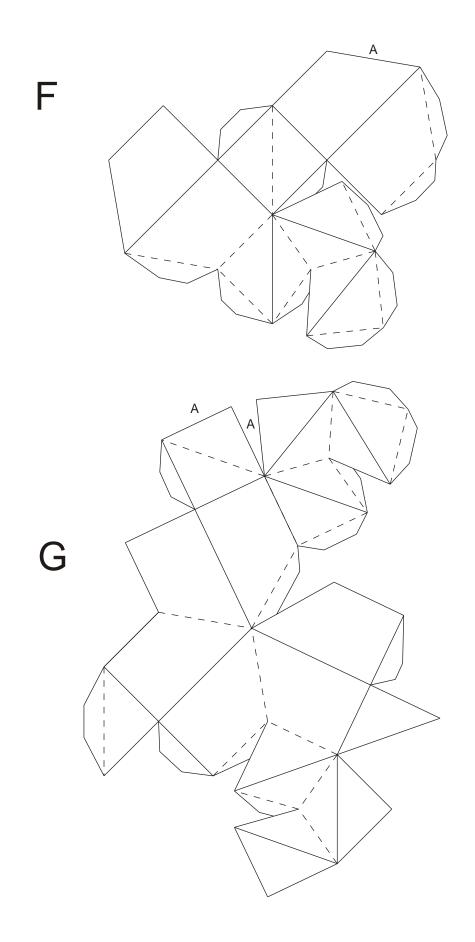
# Compound of Three Cubes

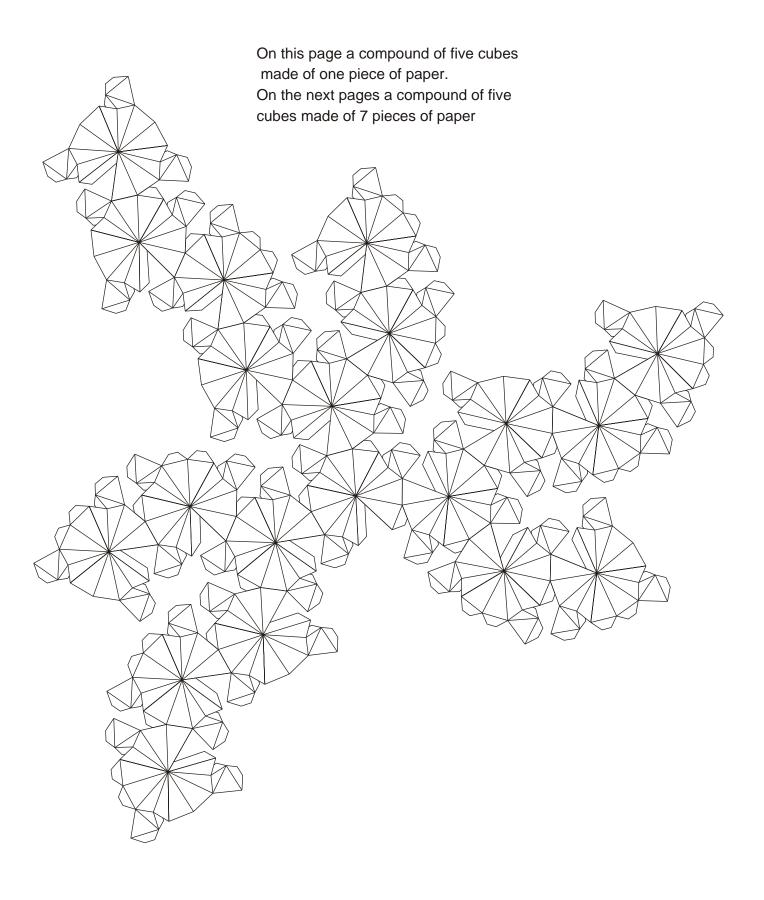
(Small version) Fold the dotted liines forwards Fold the other lines backwards







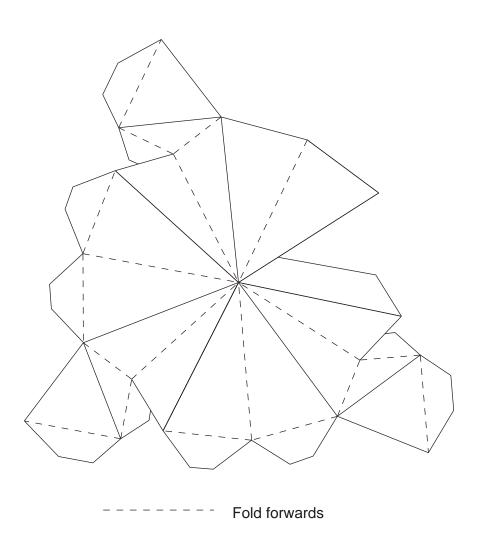




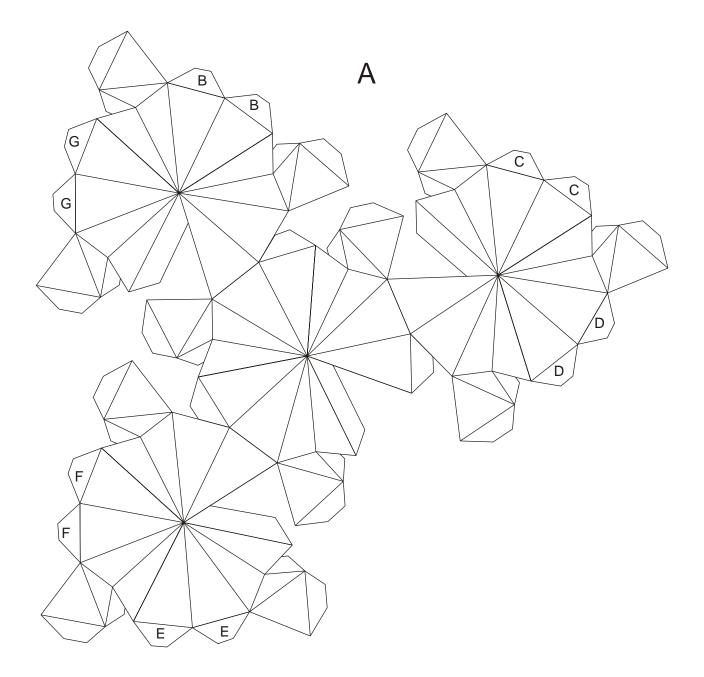
Instructions:

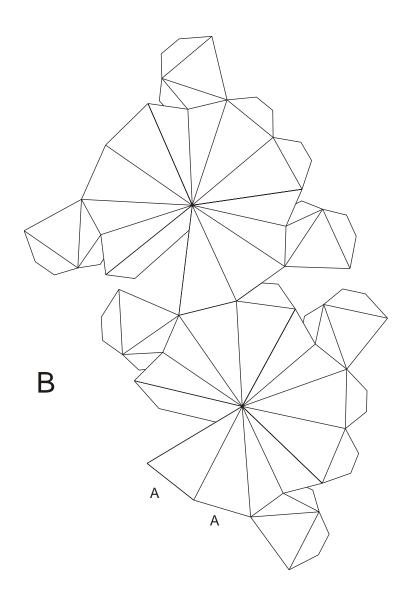
Cut and fold the piece(s) of paper. Glue the part without tabs around it last. This is the top part of piece F. This one opposites the center part of piece A.

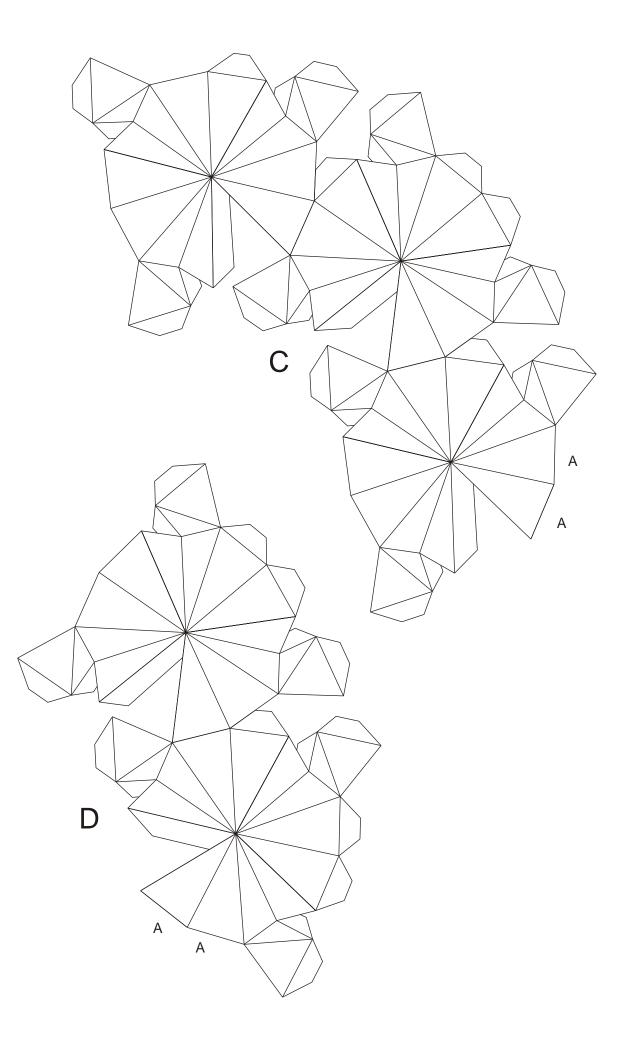
Below an example of a part

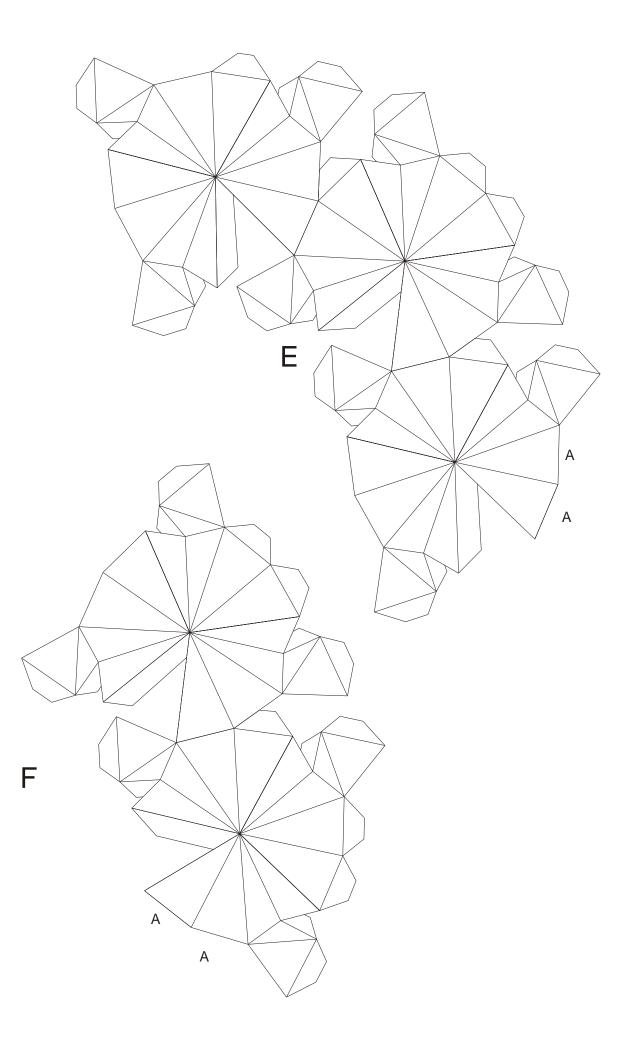


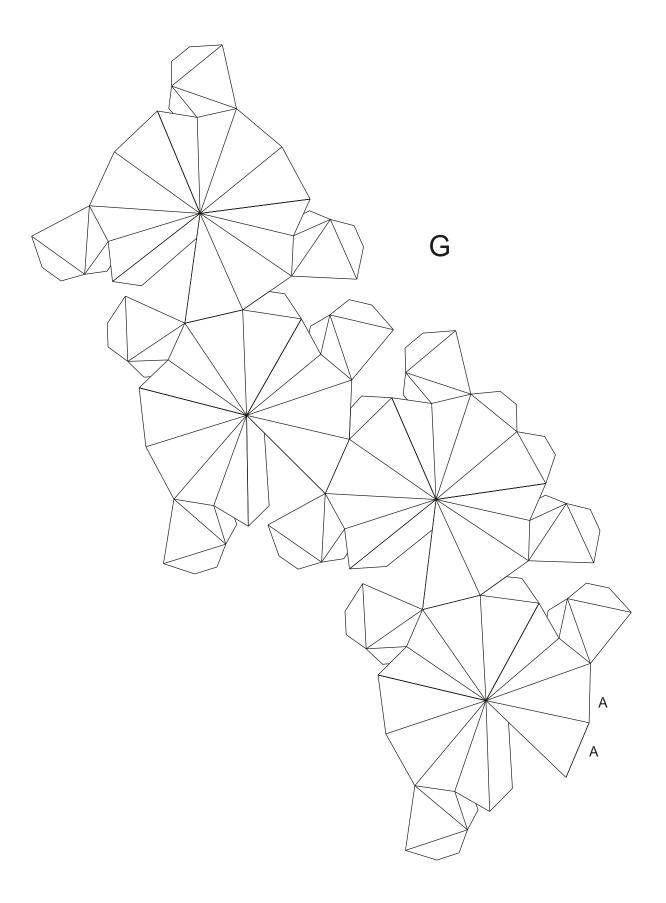
------ Fold backwards







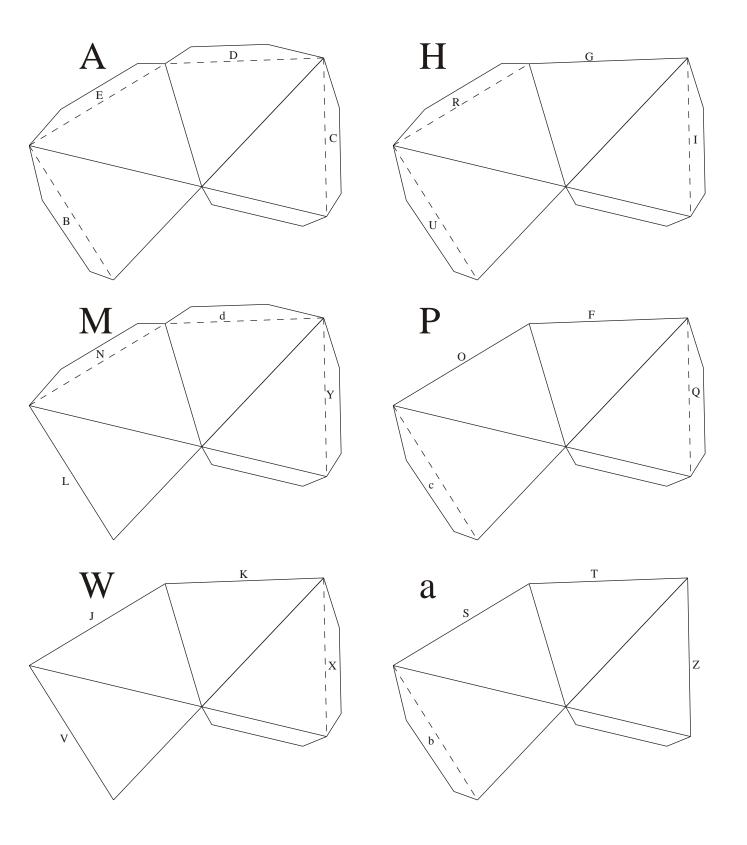




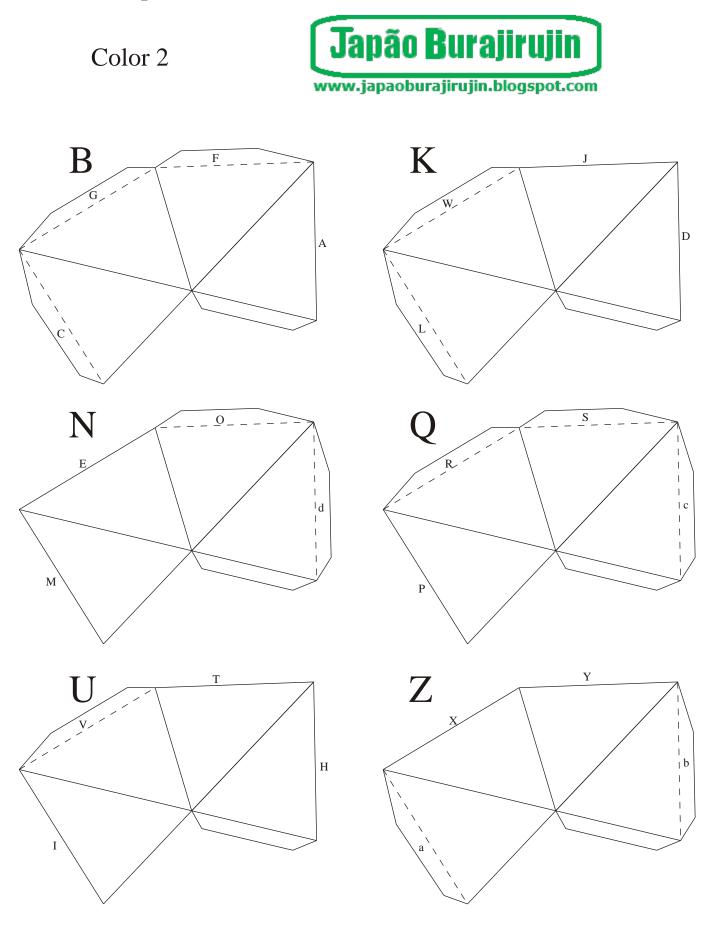
### Compound of five Octahedra

If you use paper in five different colors each octahedron has a different color

#### Color 1

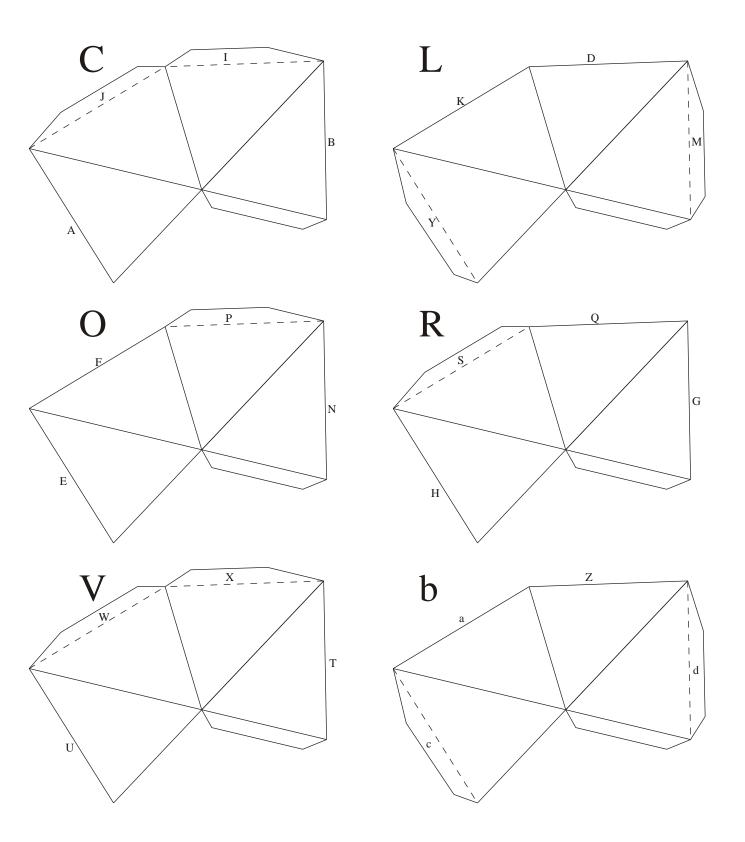


### Compound of five Octahedra



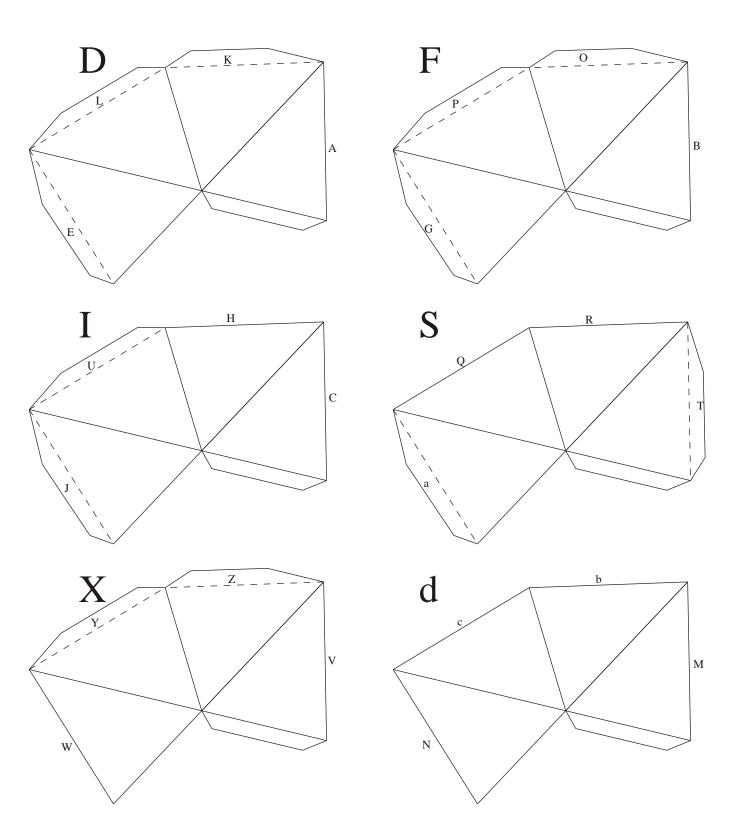
### Compound of five Octahedra





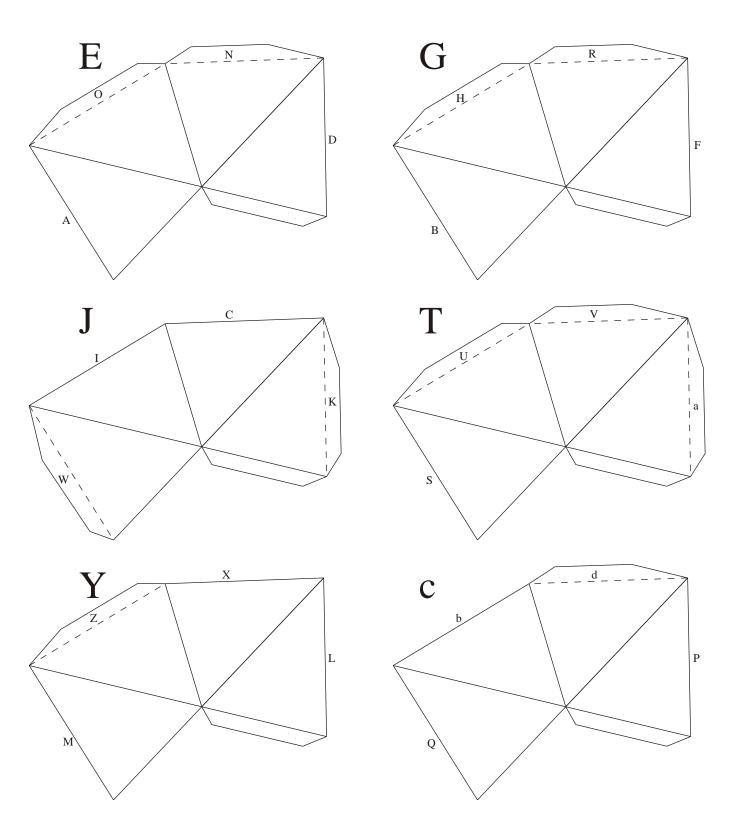
### Compound of five Octahedra

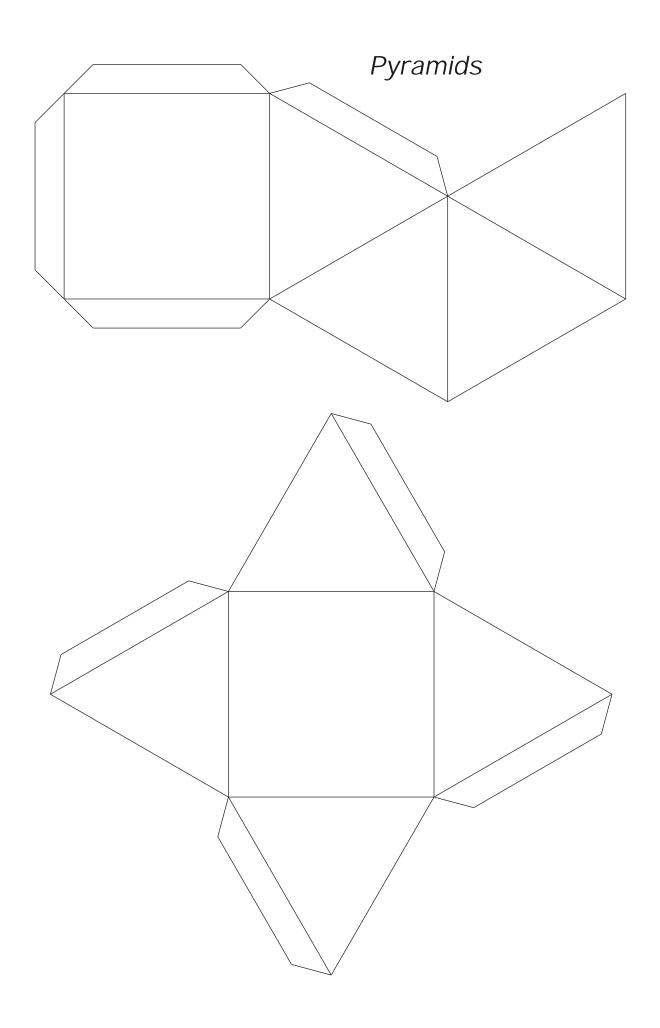


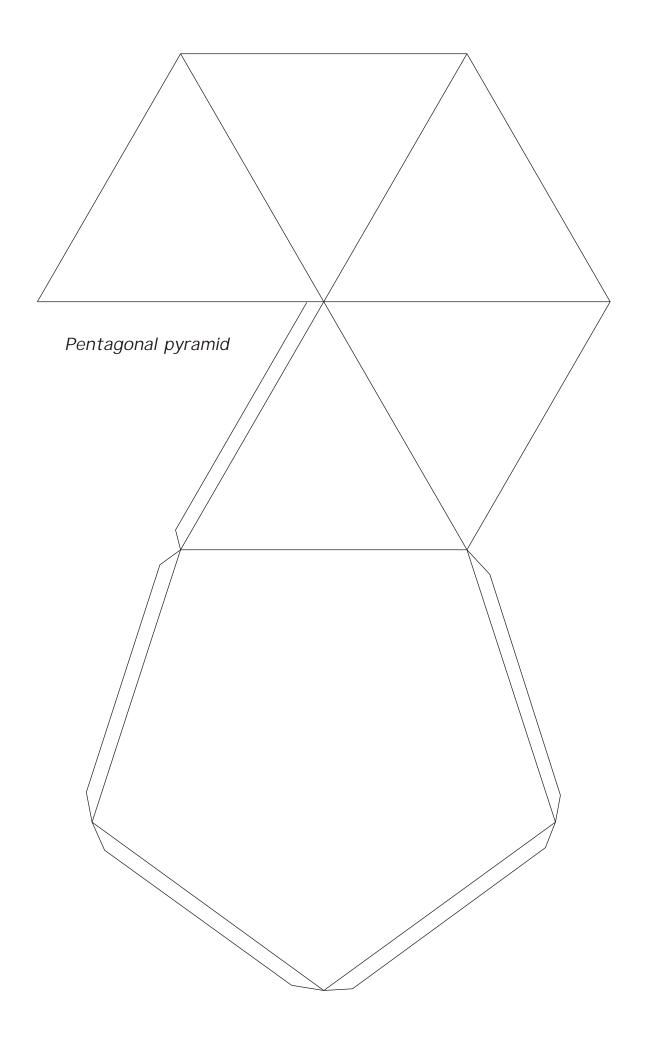


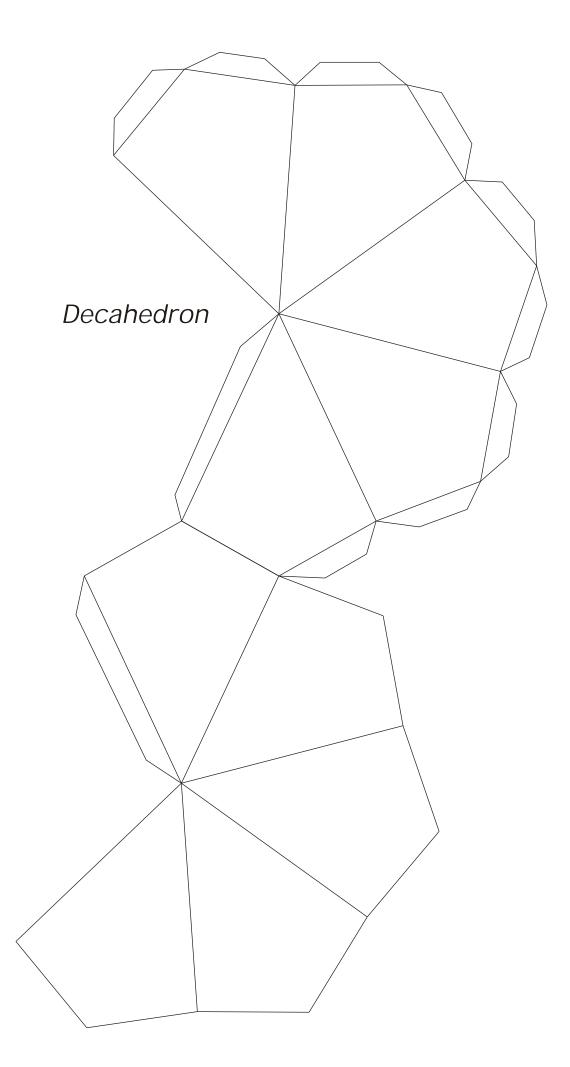
#### Compound of five Octahedra

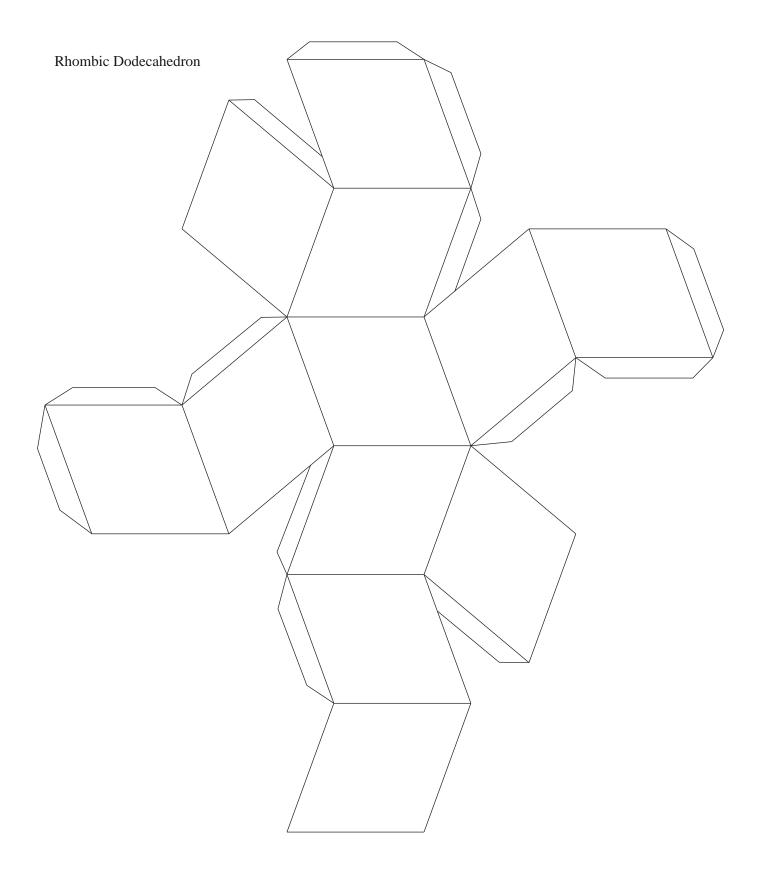


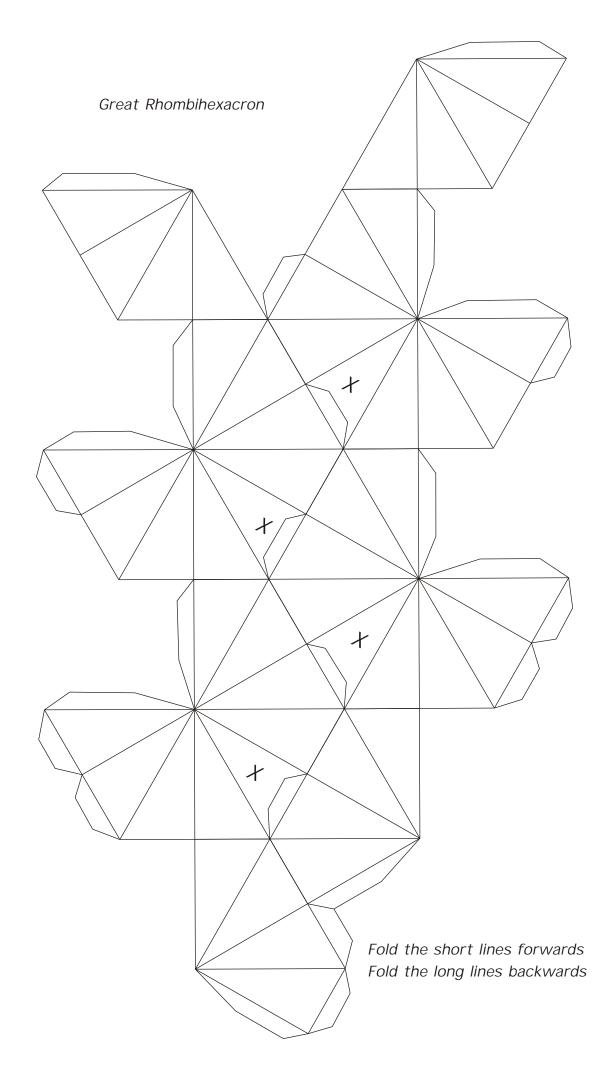


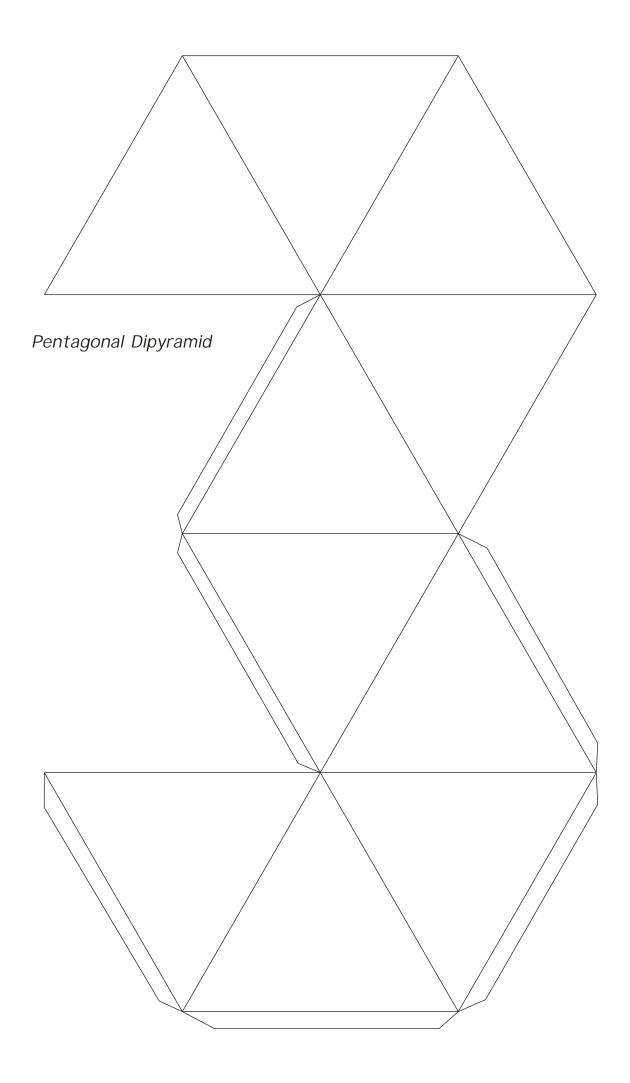


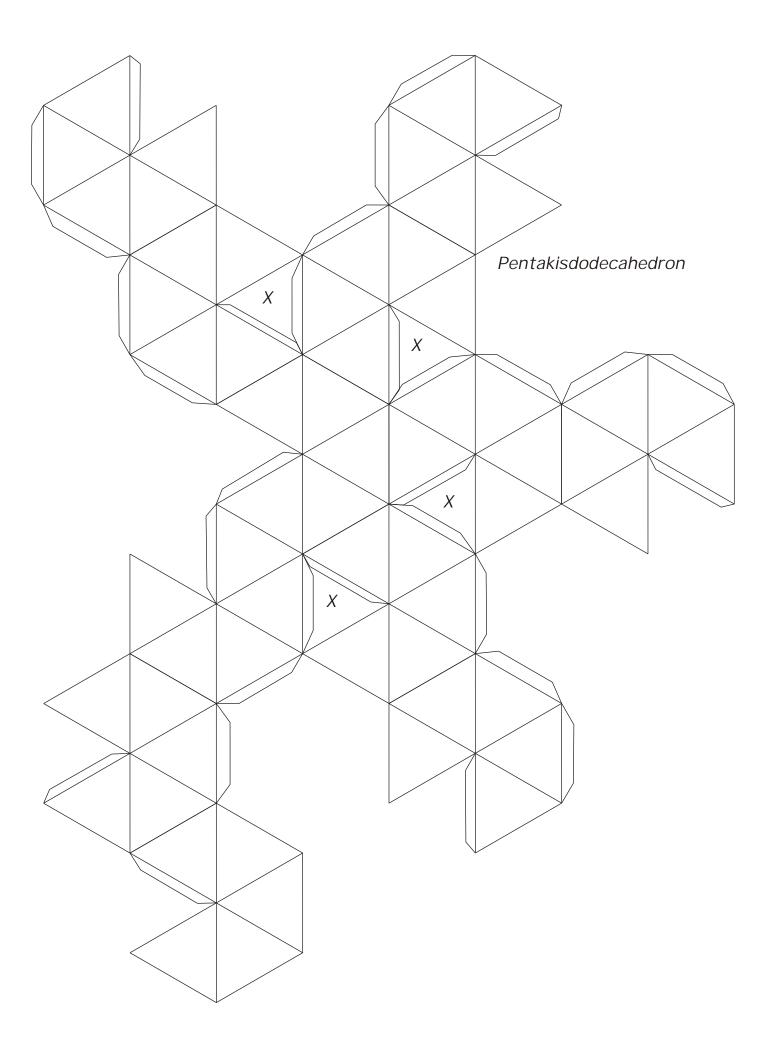


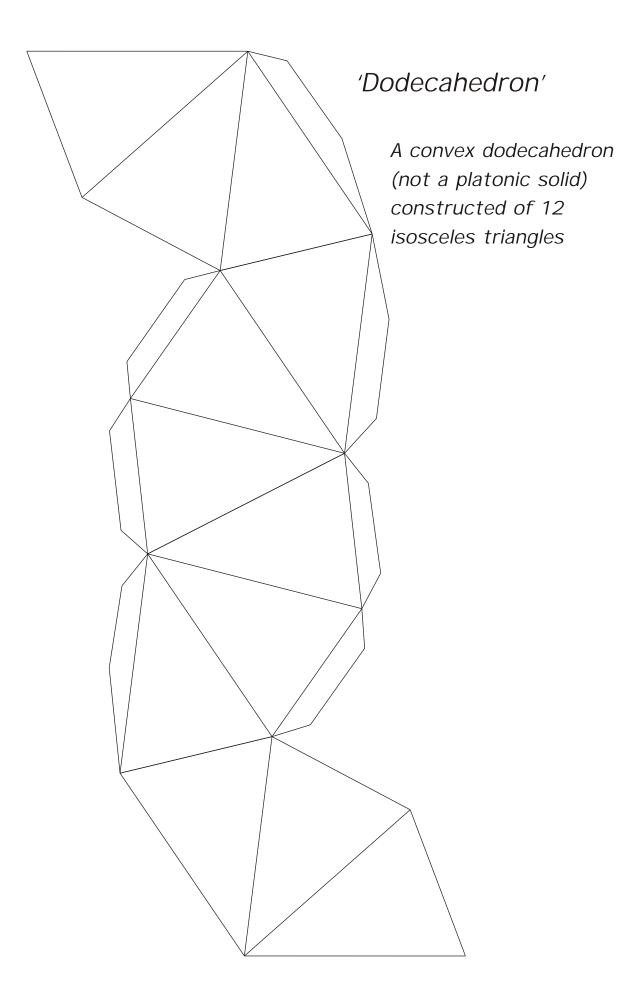


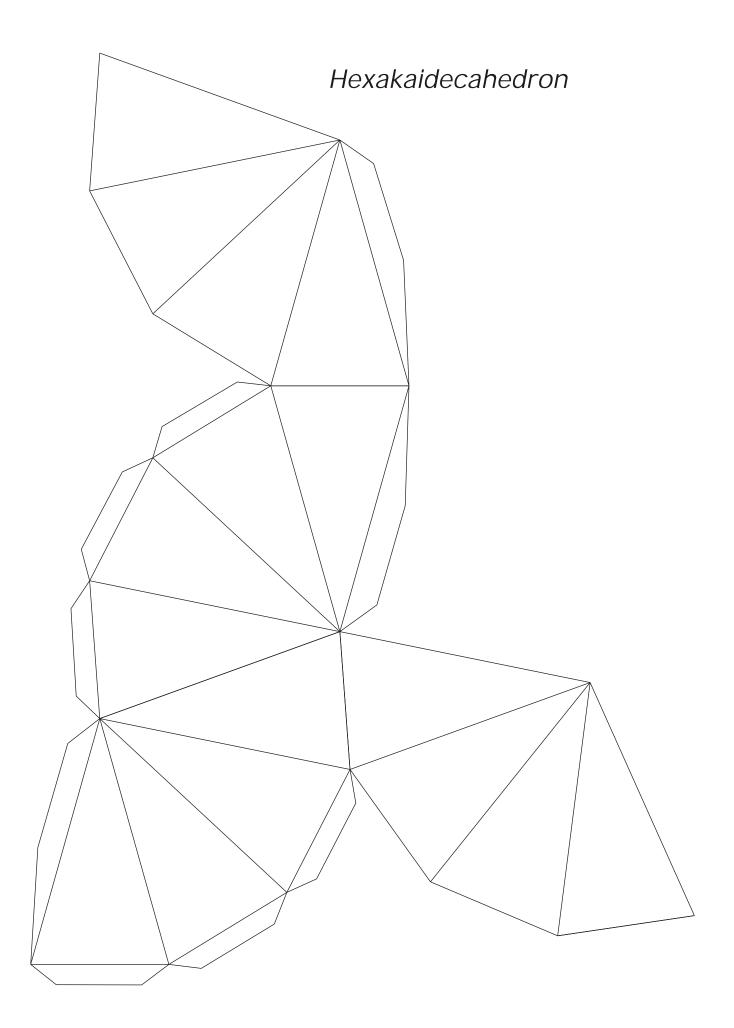


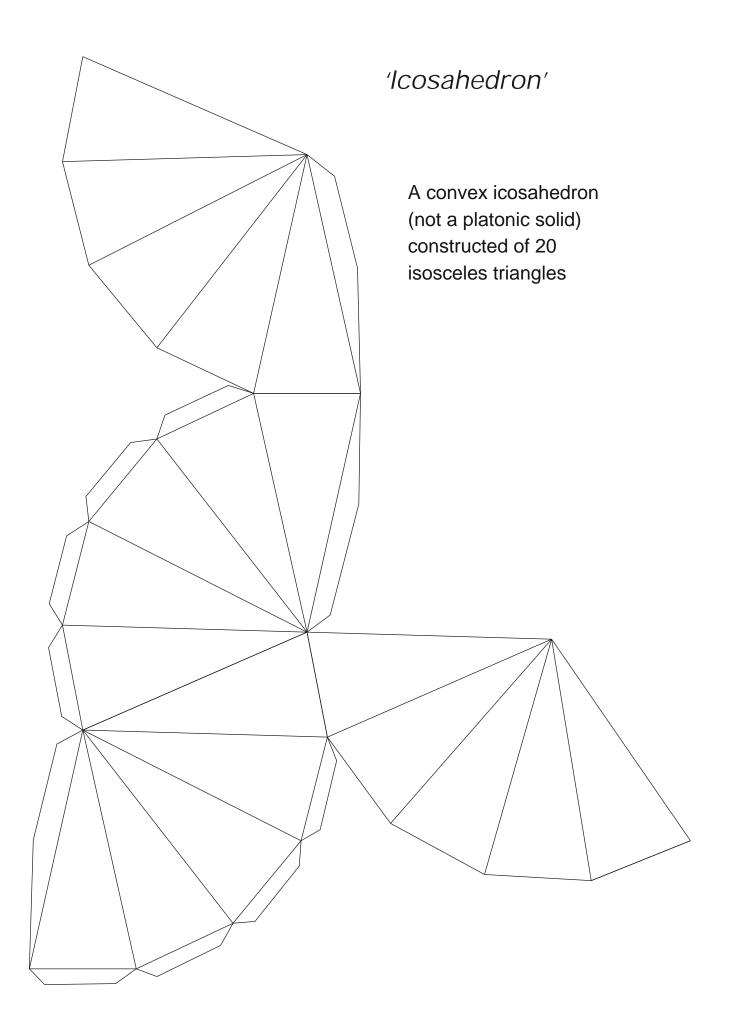


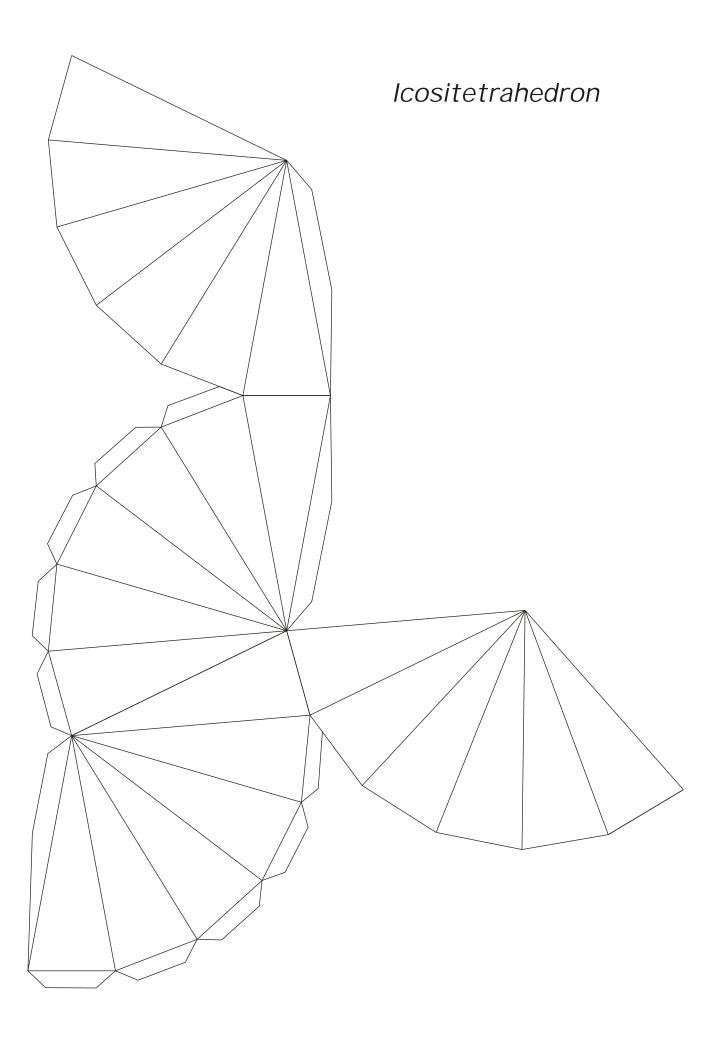


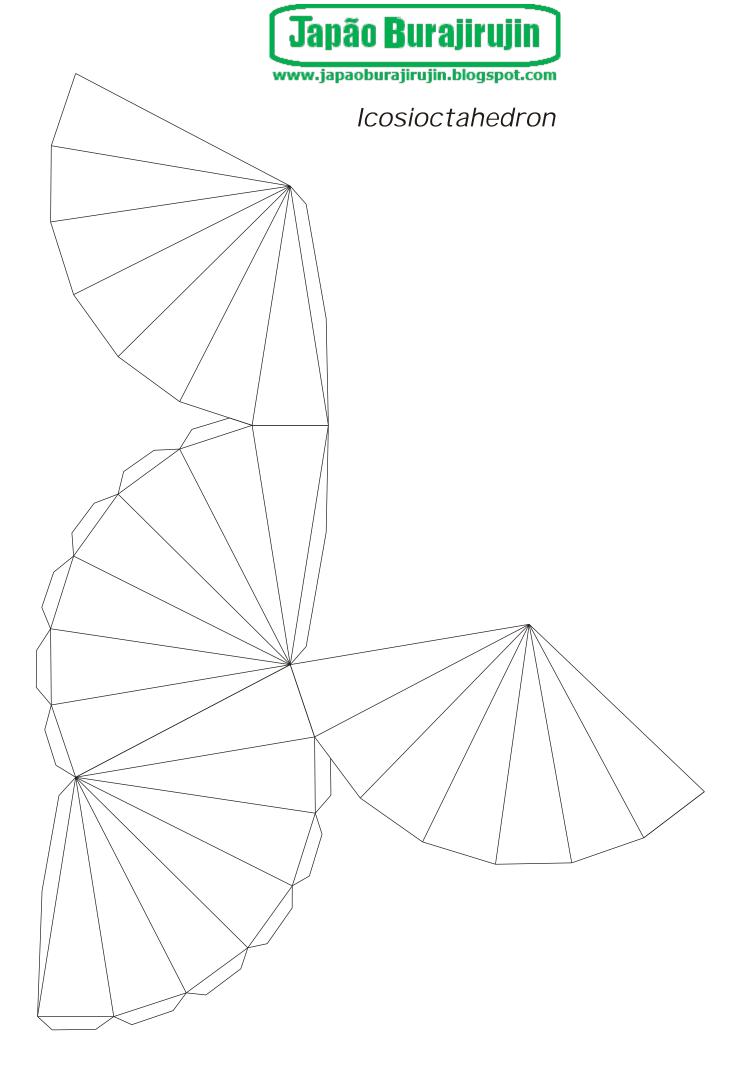


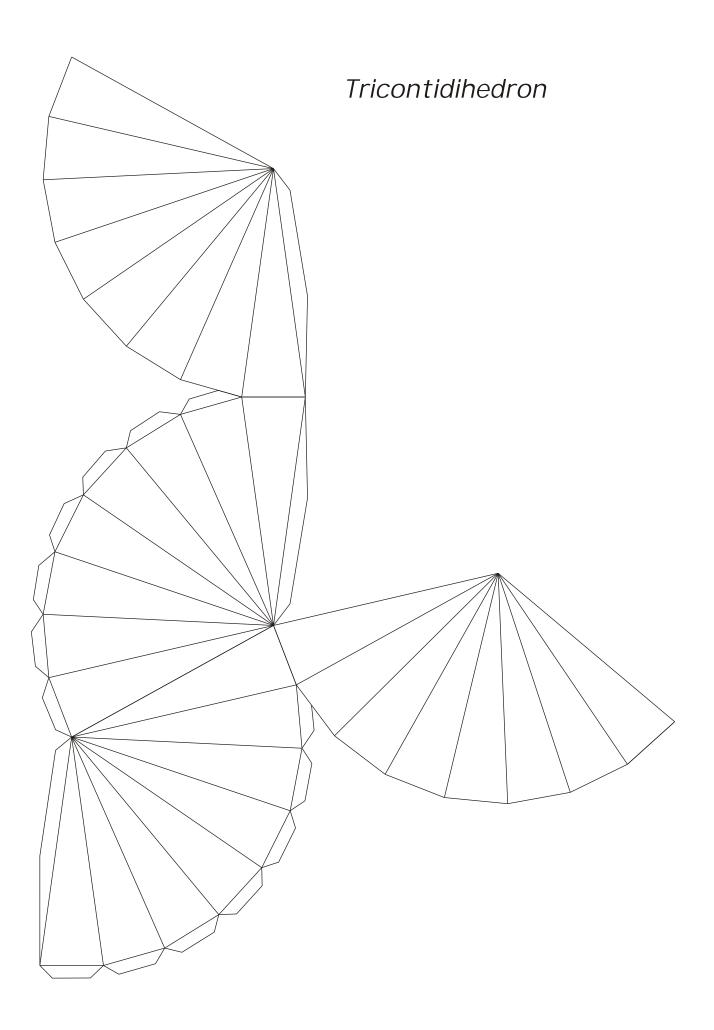


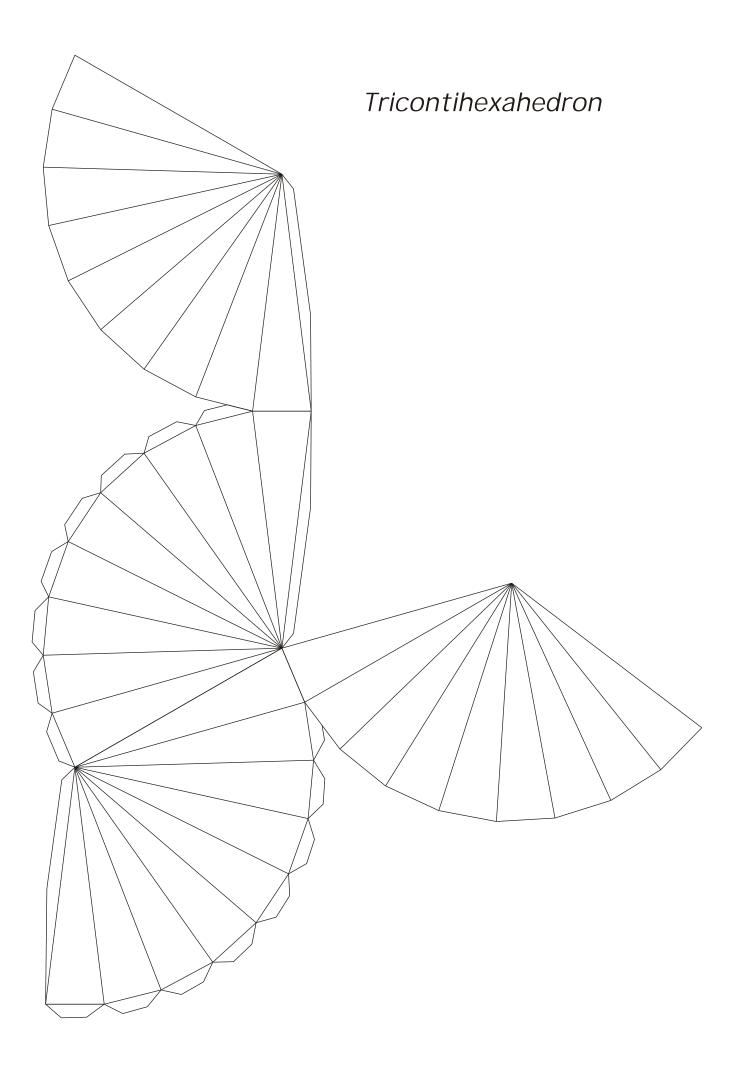


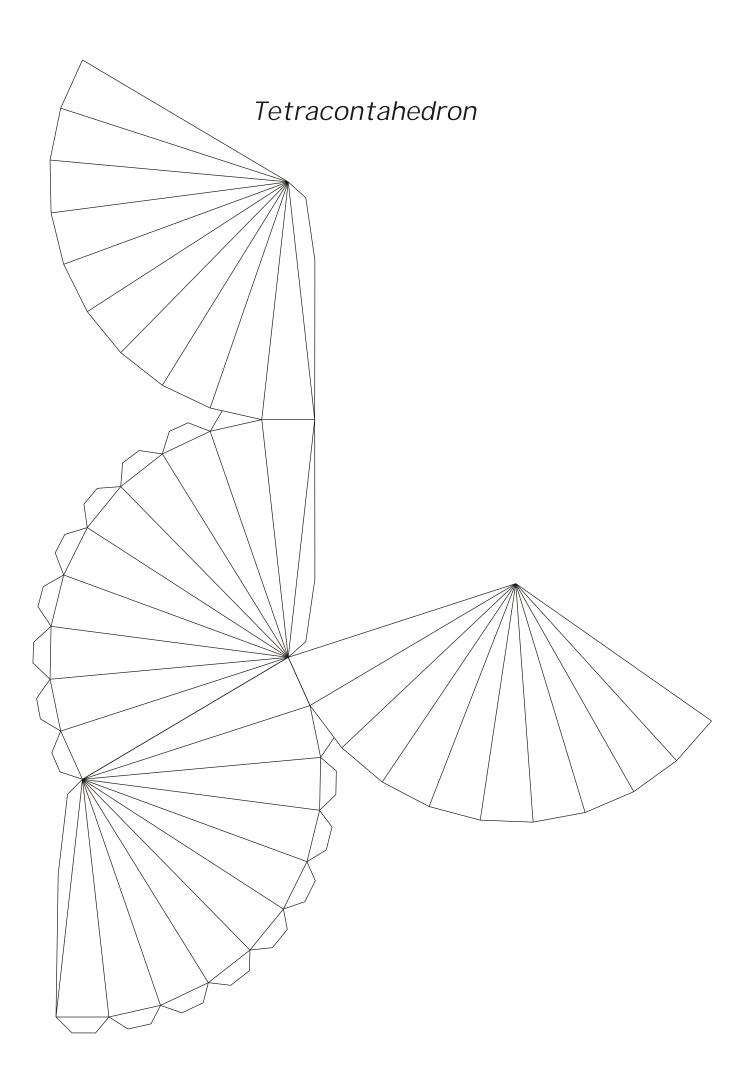


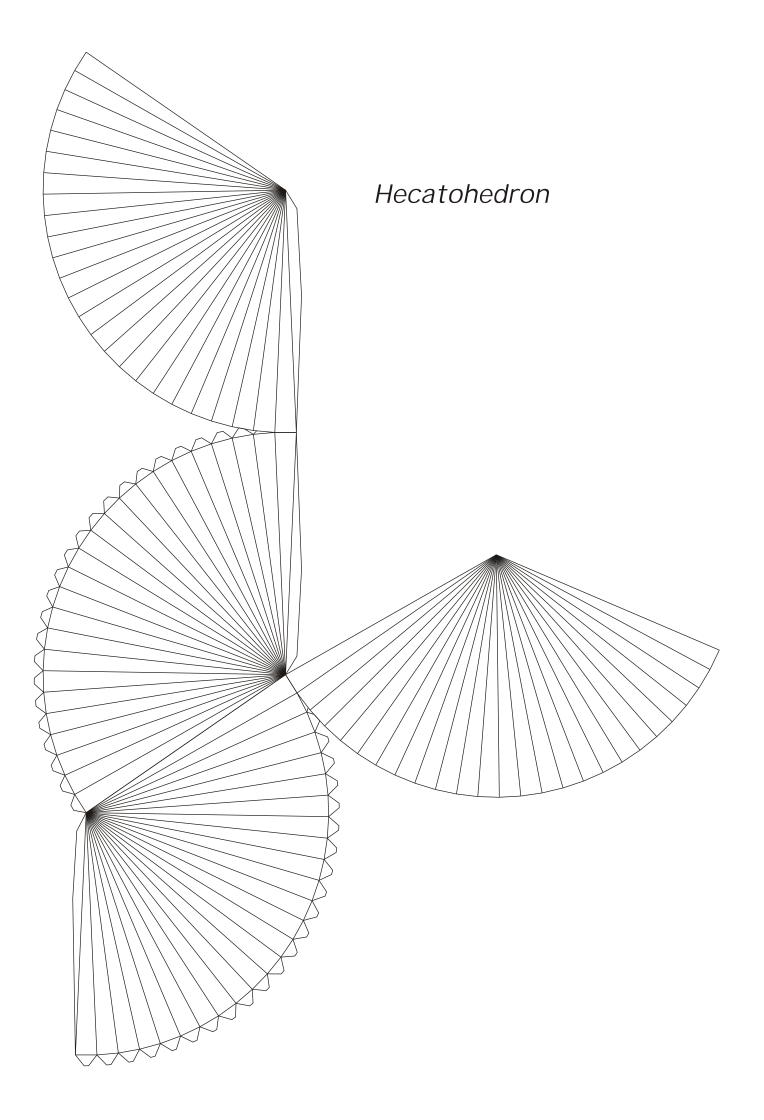




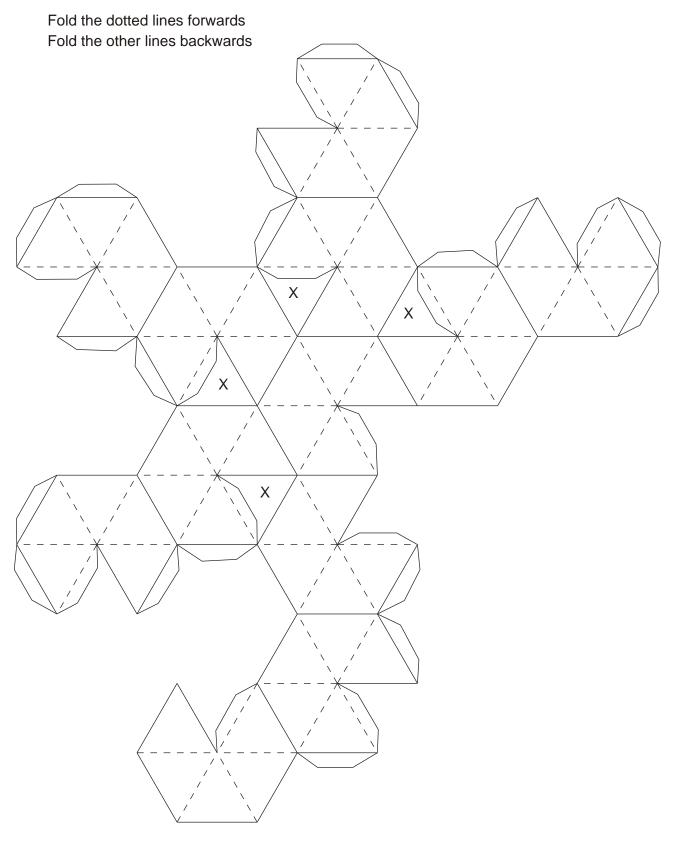




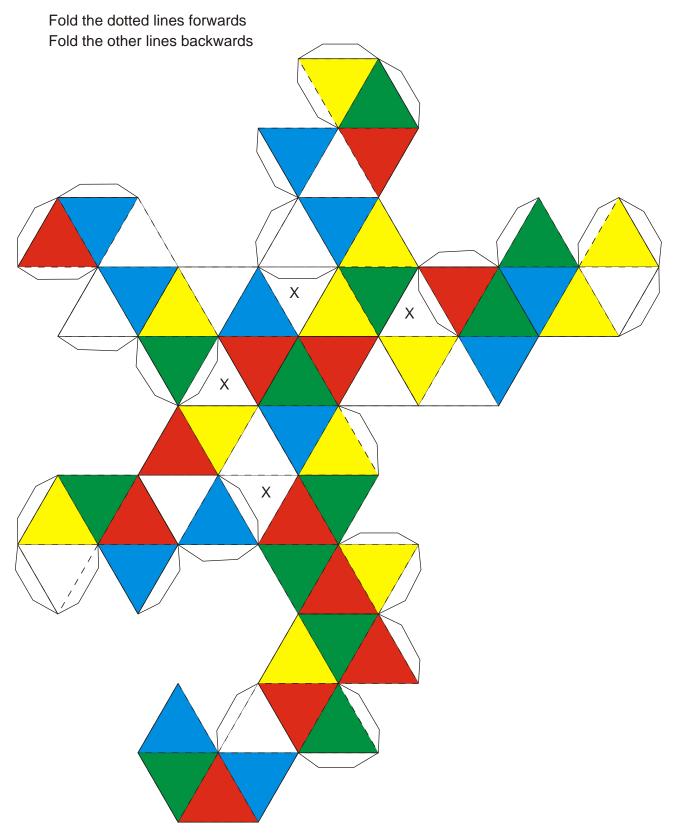




#### Third Stallation of the Icosahedron

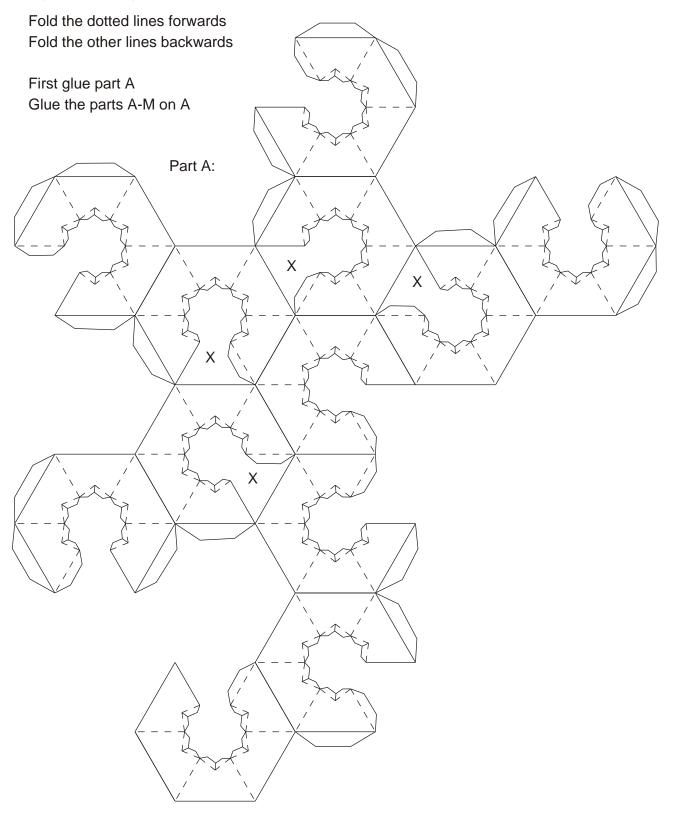


#### Third Stallation of the Icosahedron

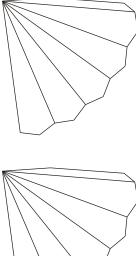


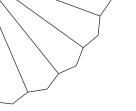
#### Sixth Stallation of the Icosahedron

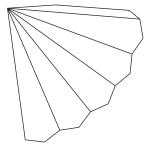
(small version)

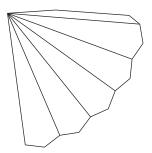


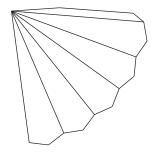
#### Parts B-M

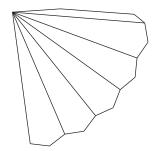


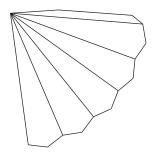


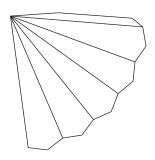


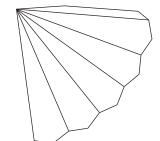


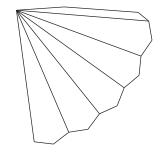


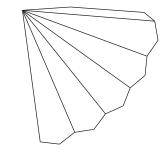








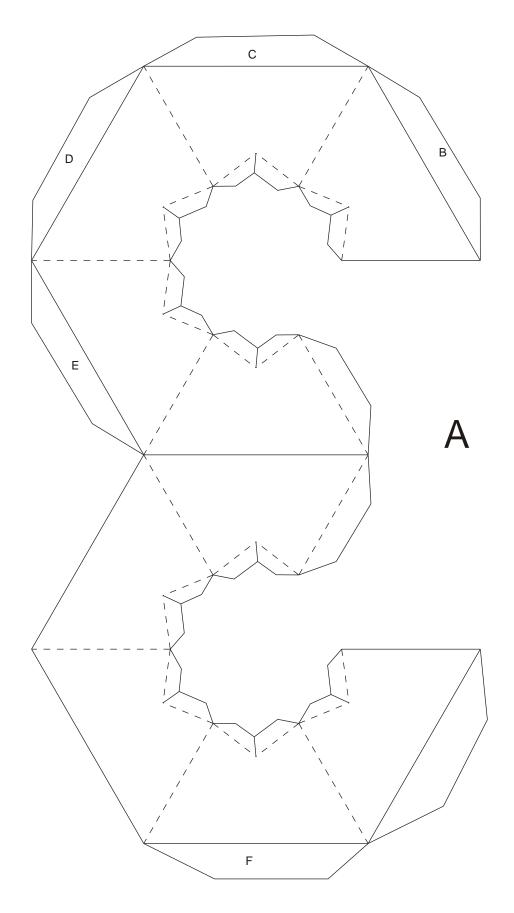


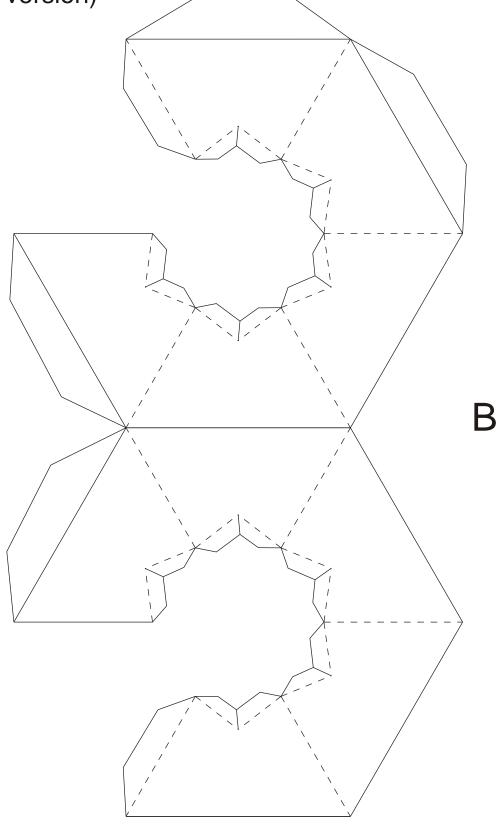


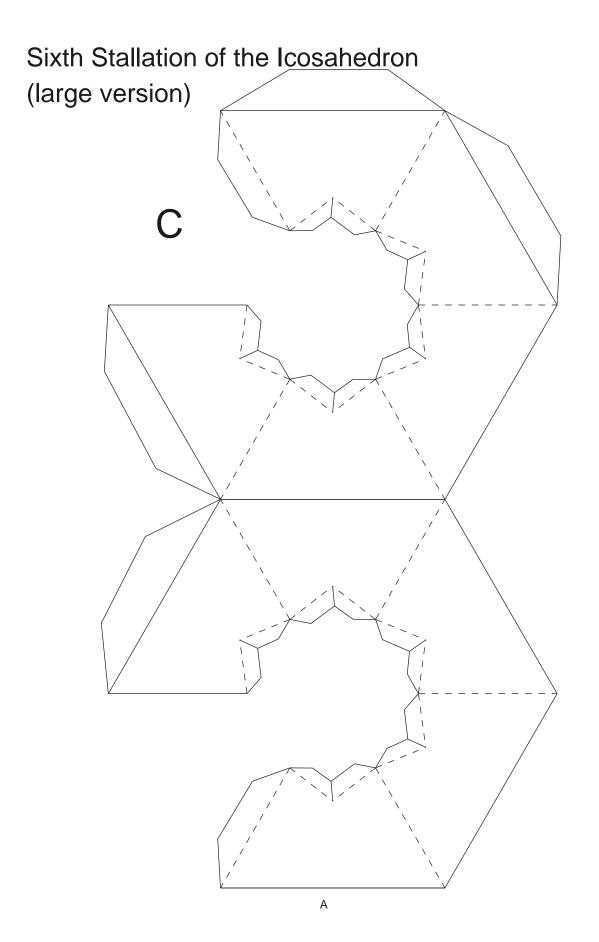
### Sixth Stallation of the Icosahedron

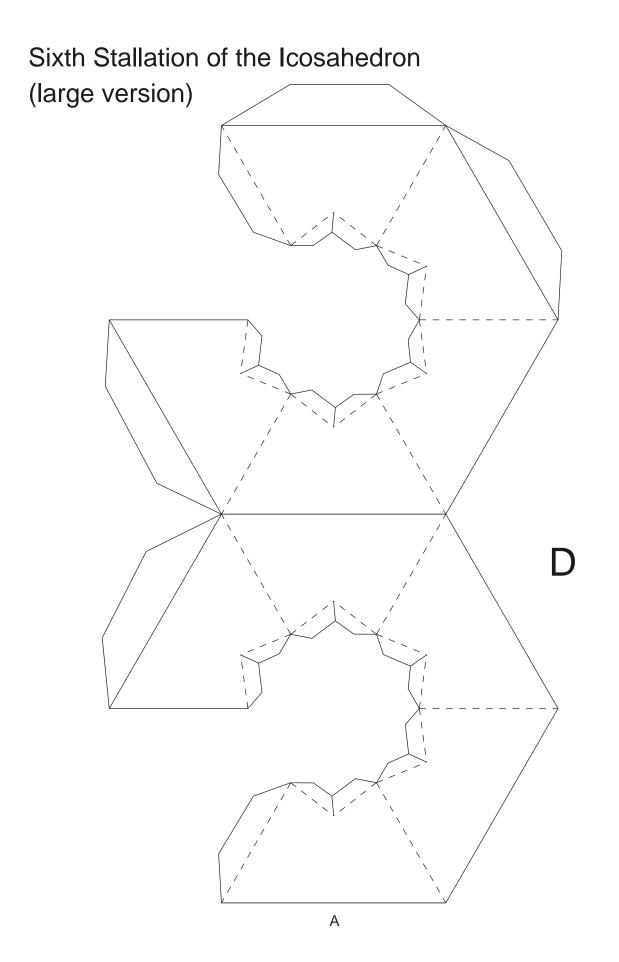
#### (large version)

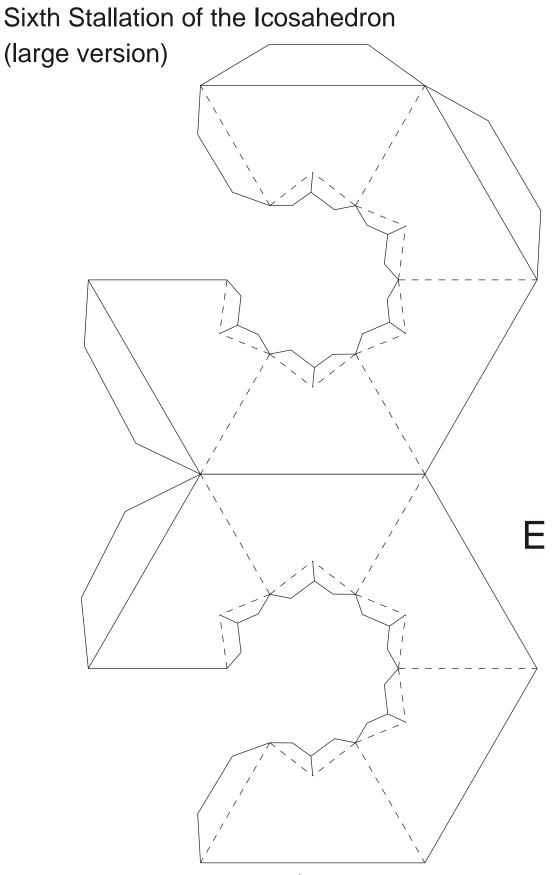
First glue the parts A until F Glue the 12 other parts on the ABCDEF

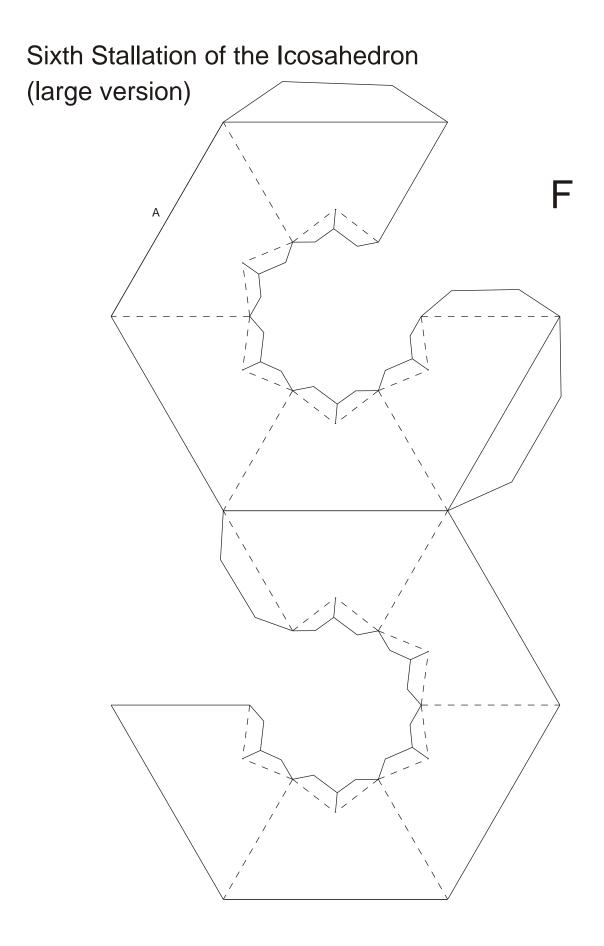


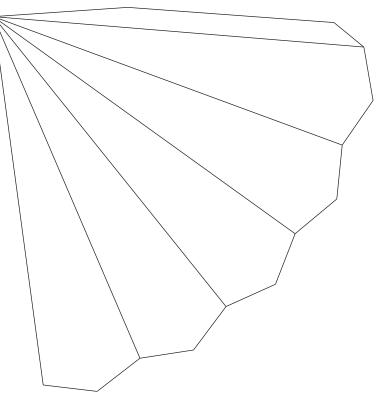


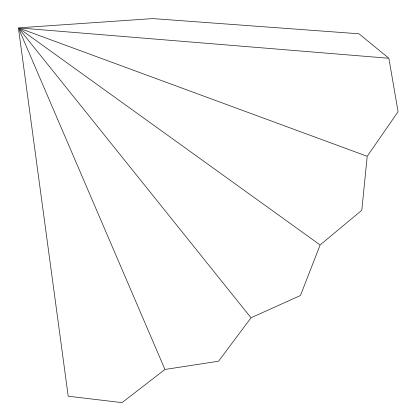


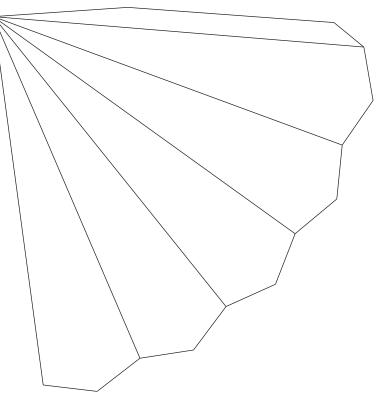


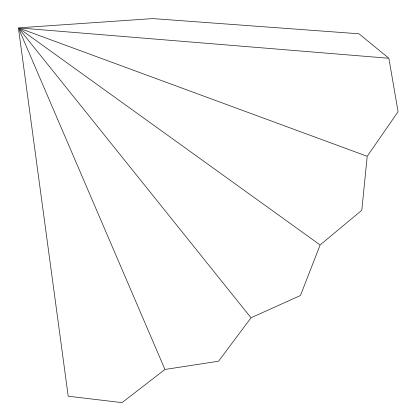


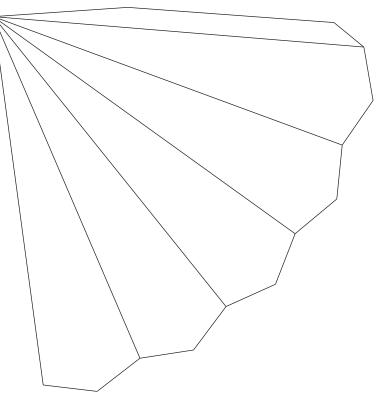


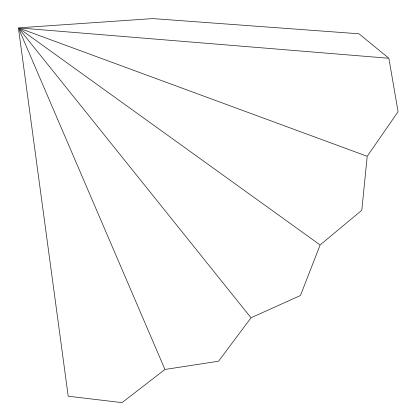


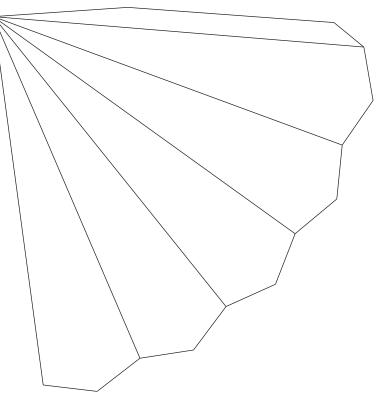


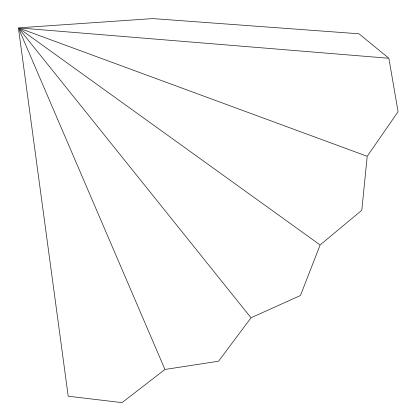


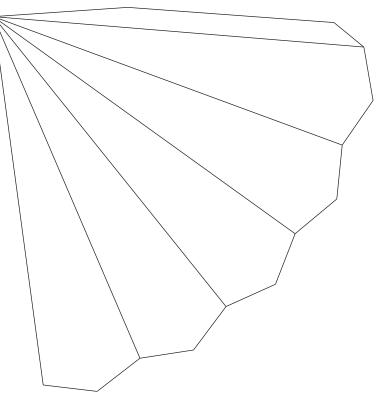


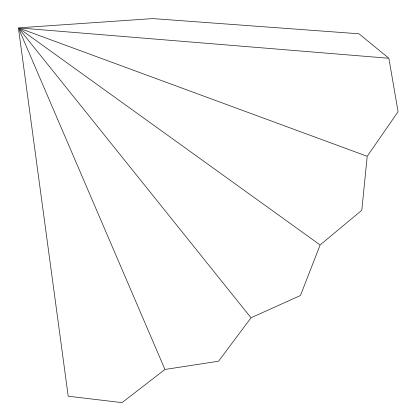


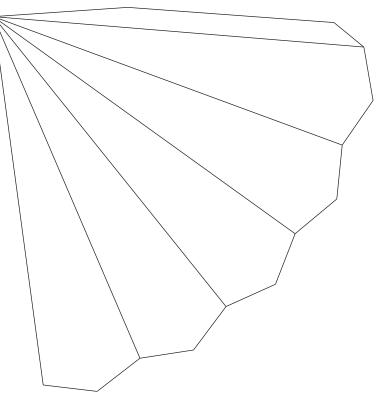


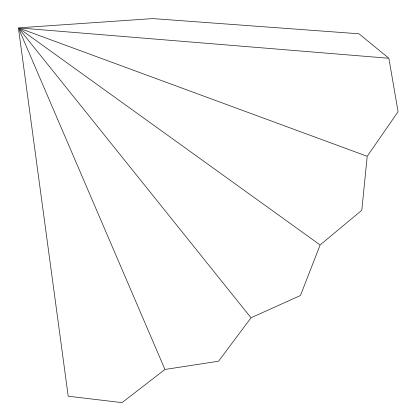




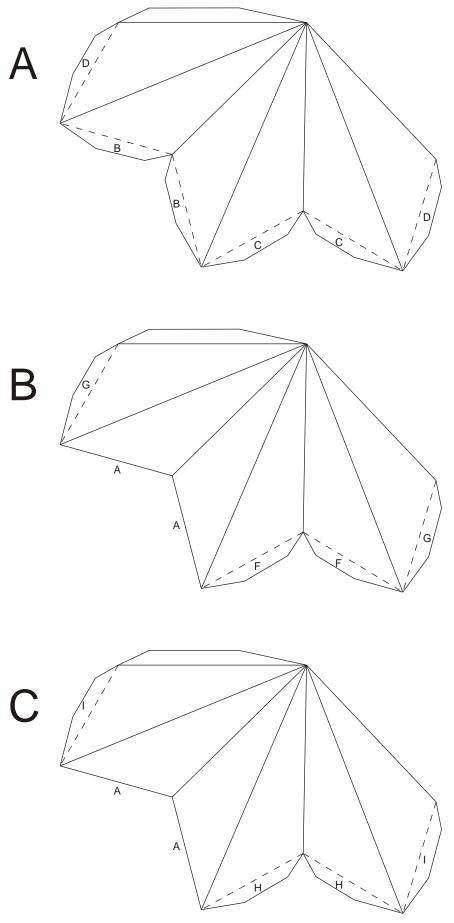


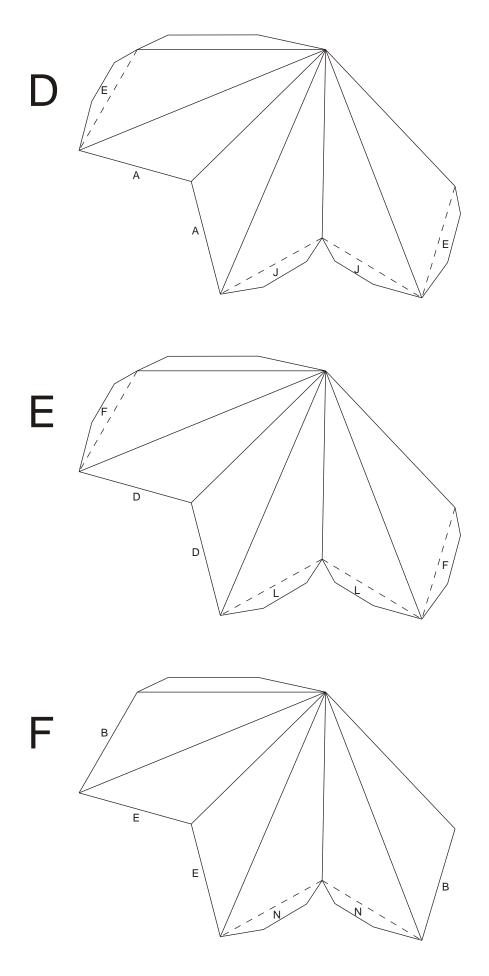


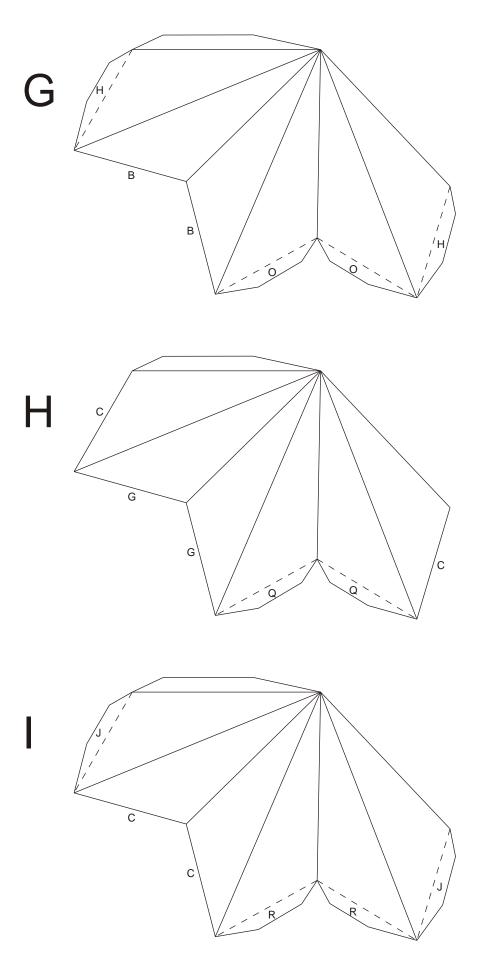


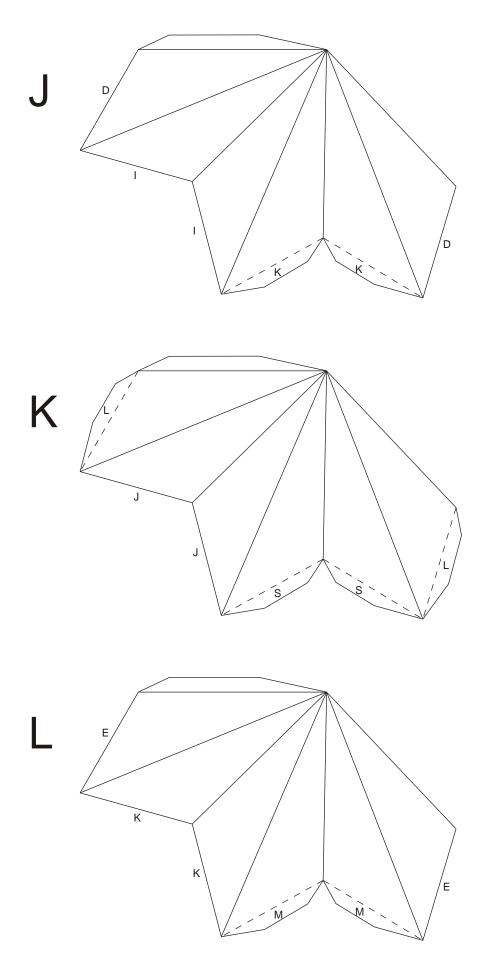


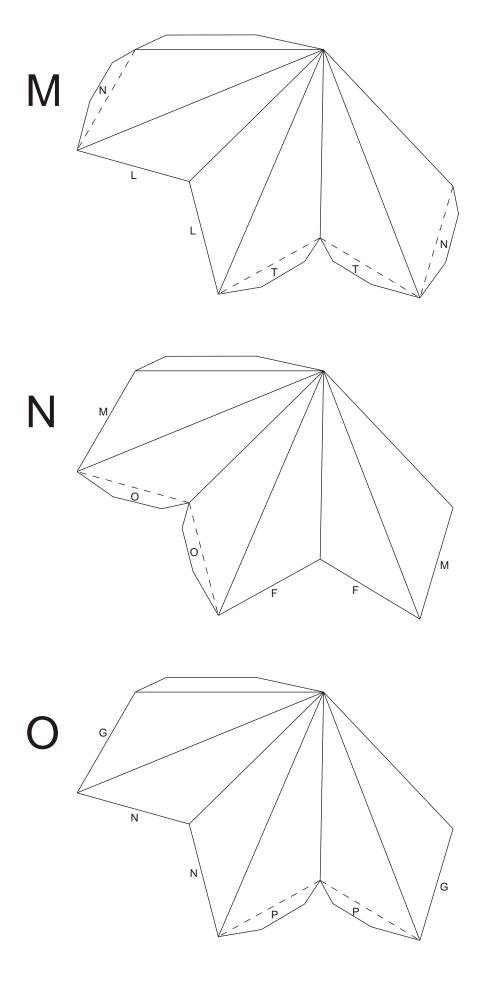
#### Seventh Stellation of the Icosahedron

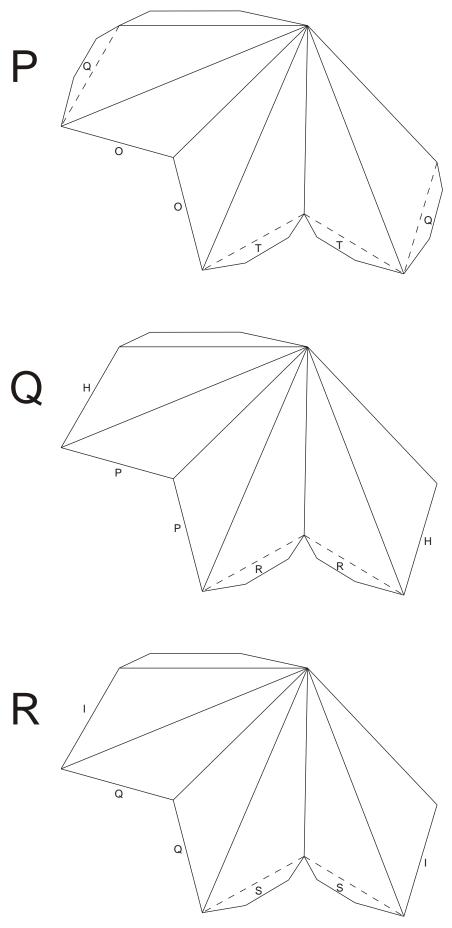


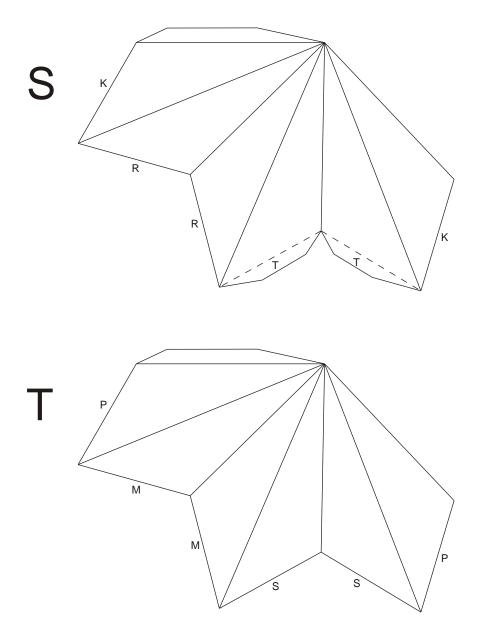


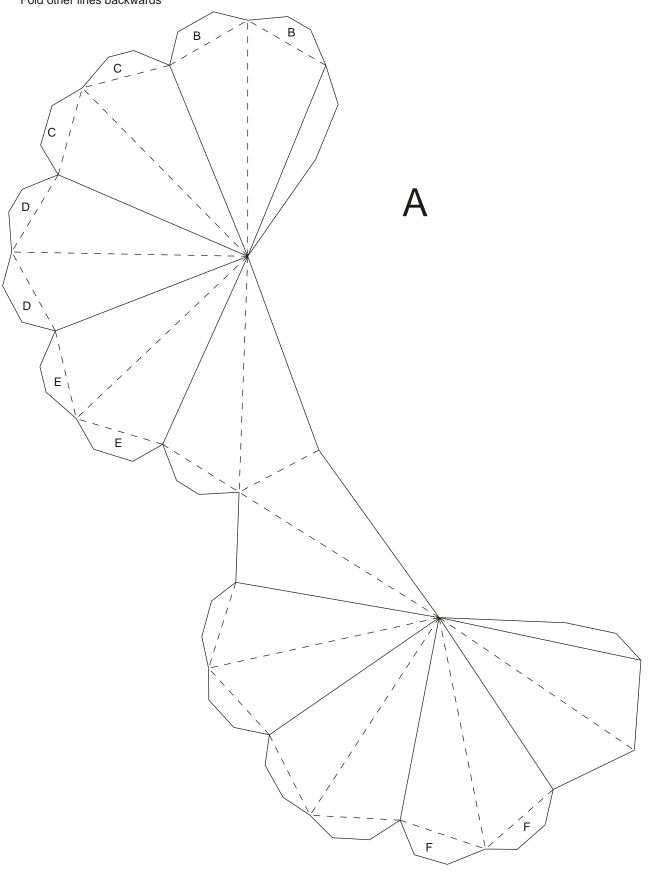


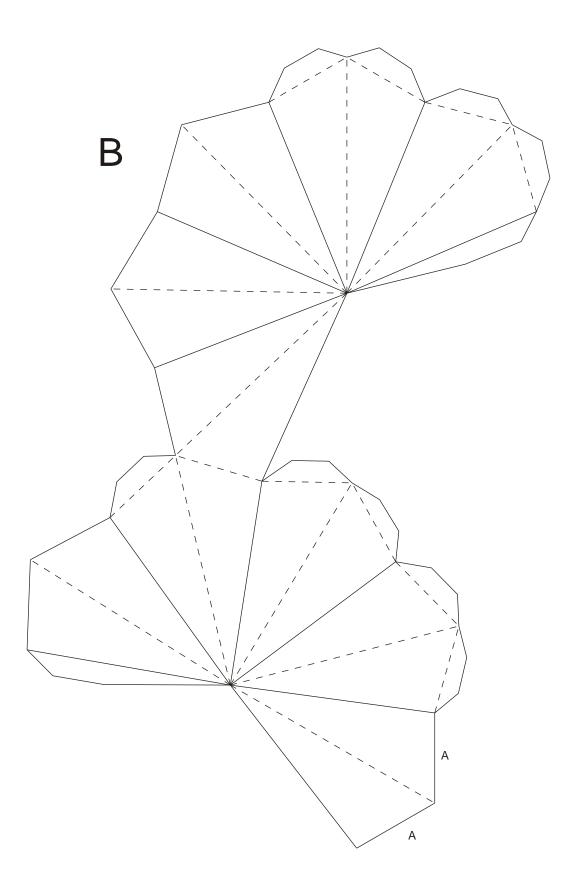


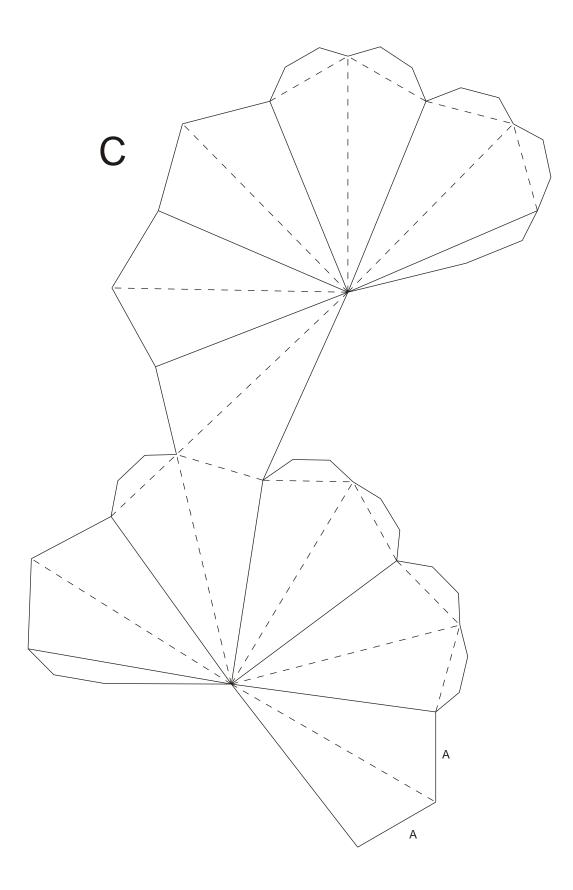


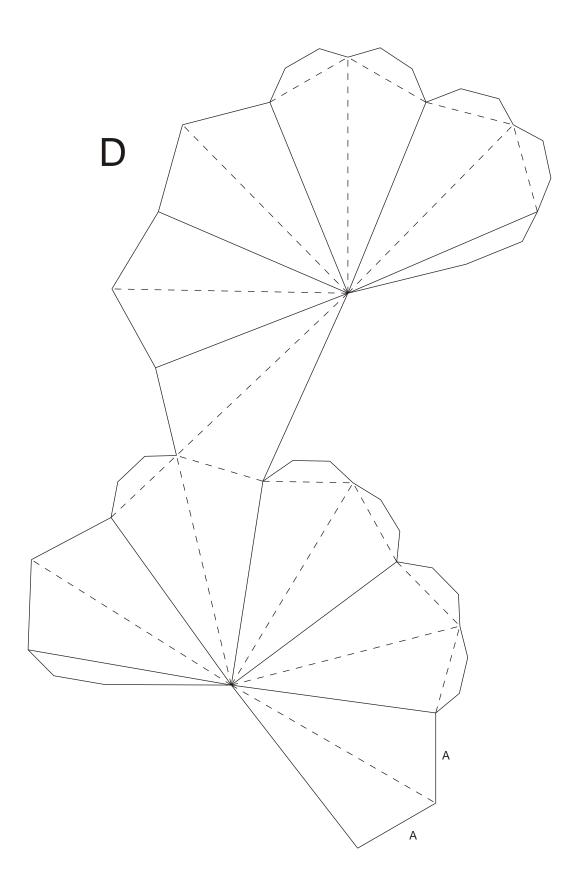


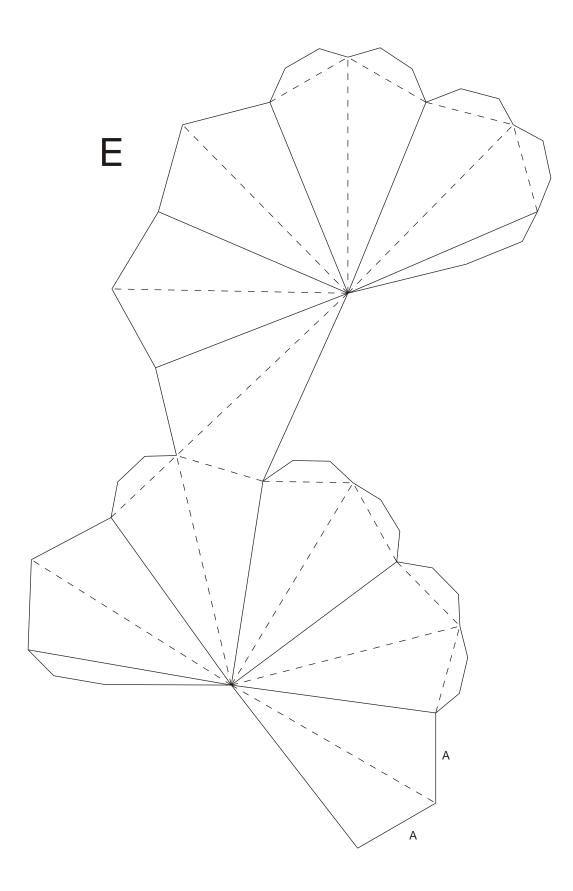


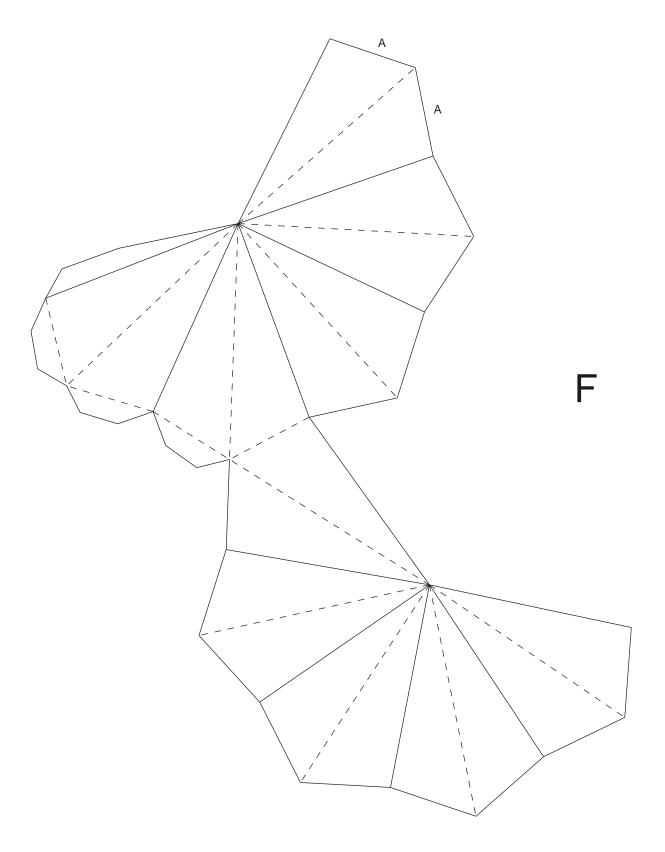


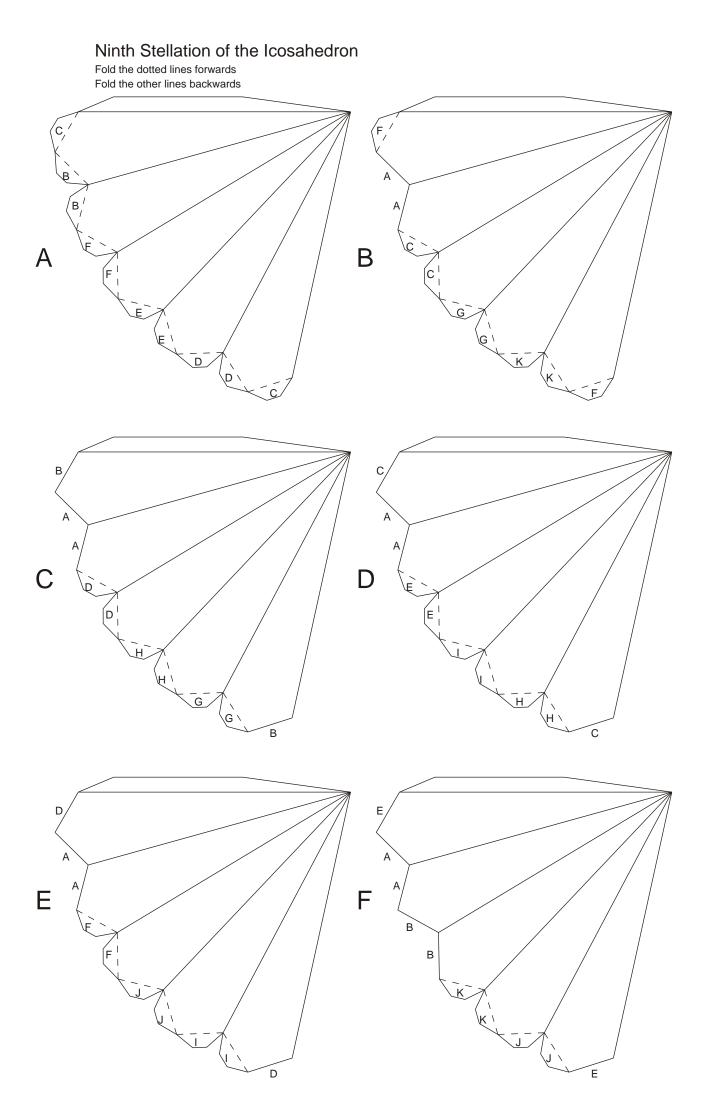


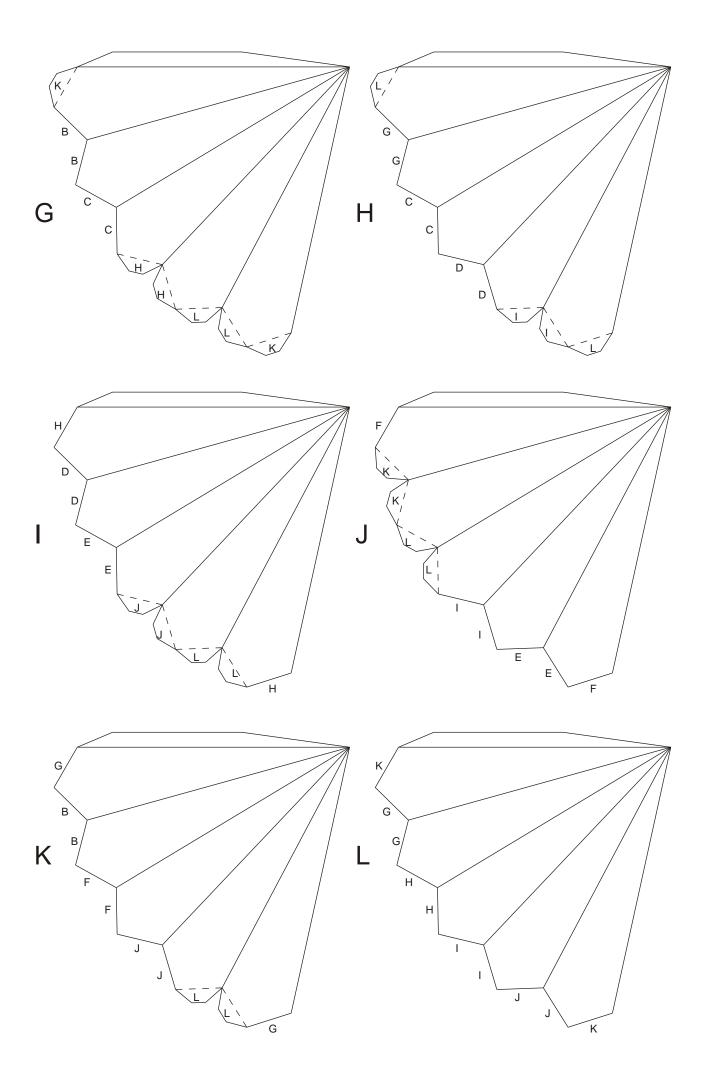


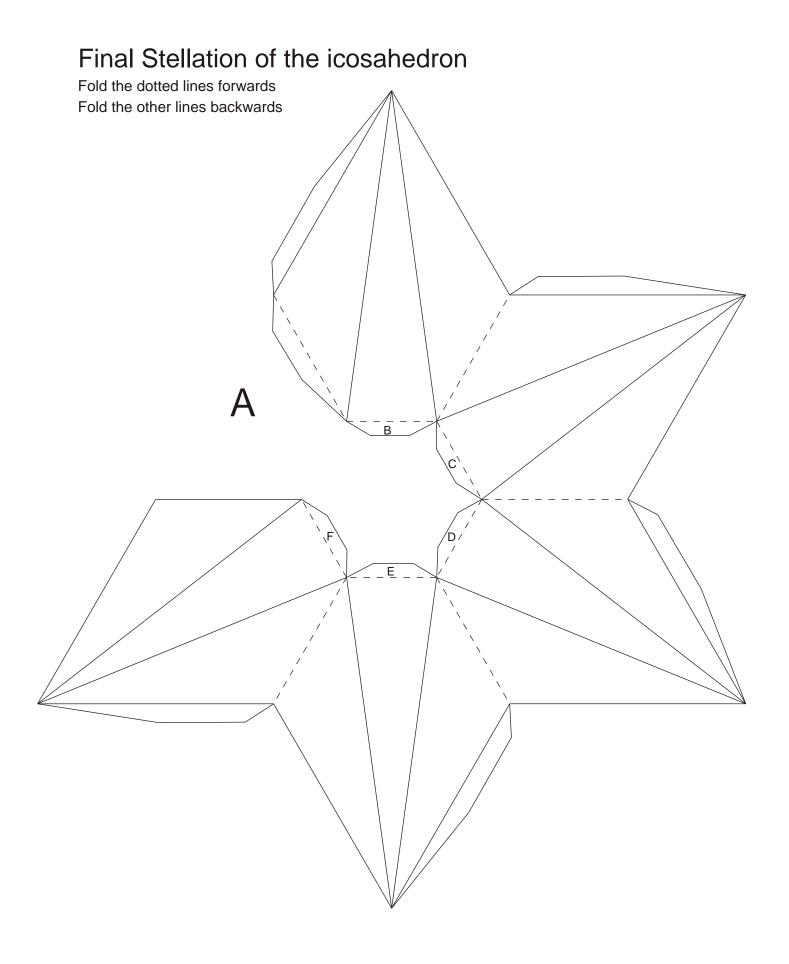


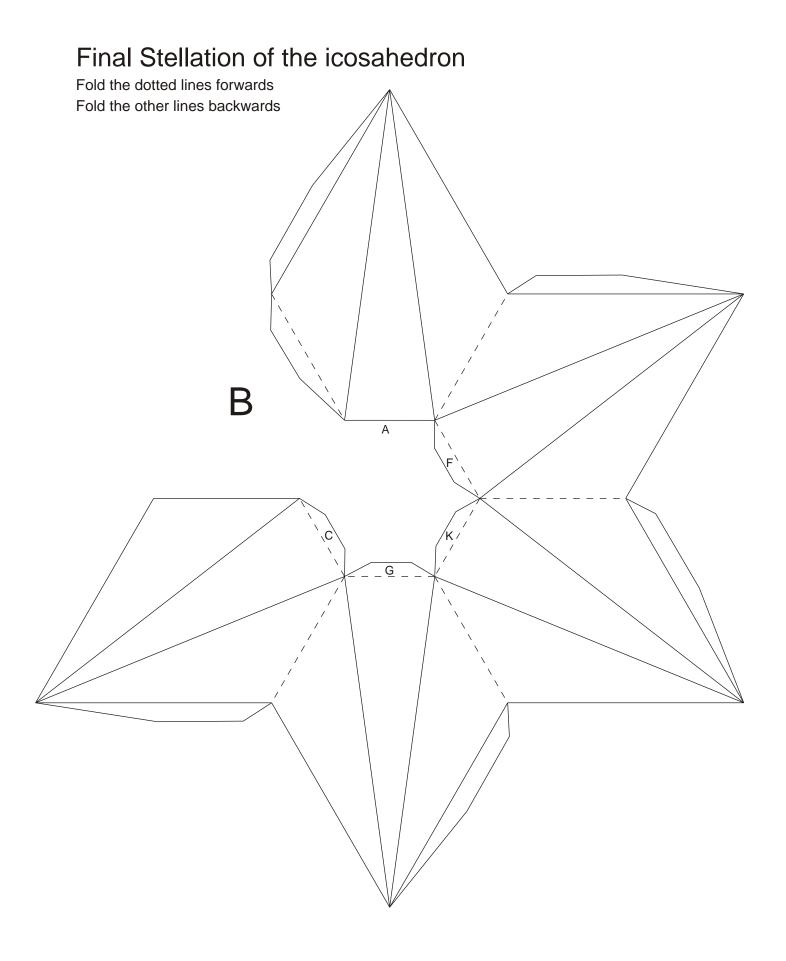


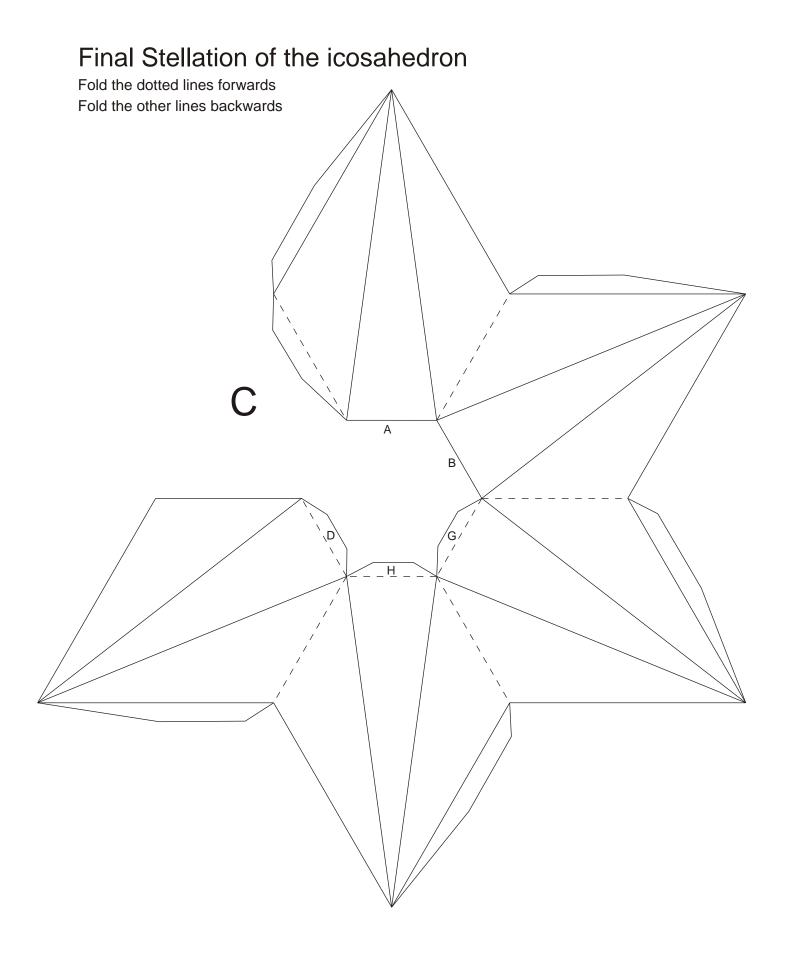


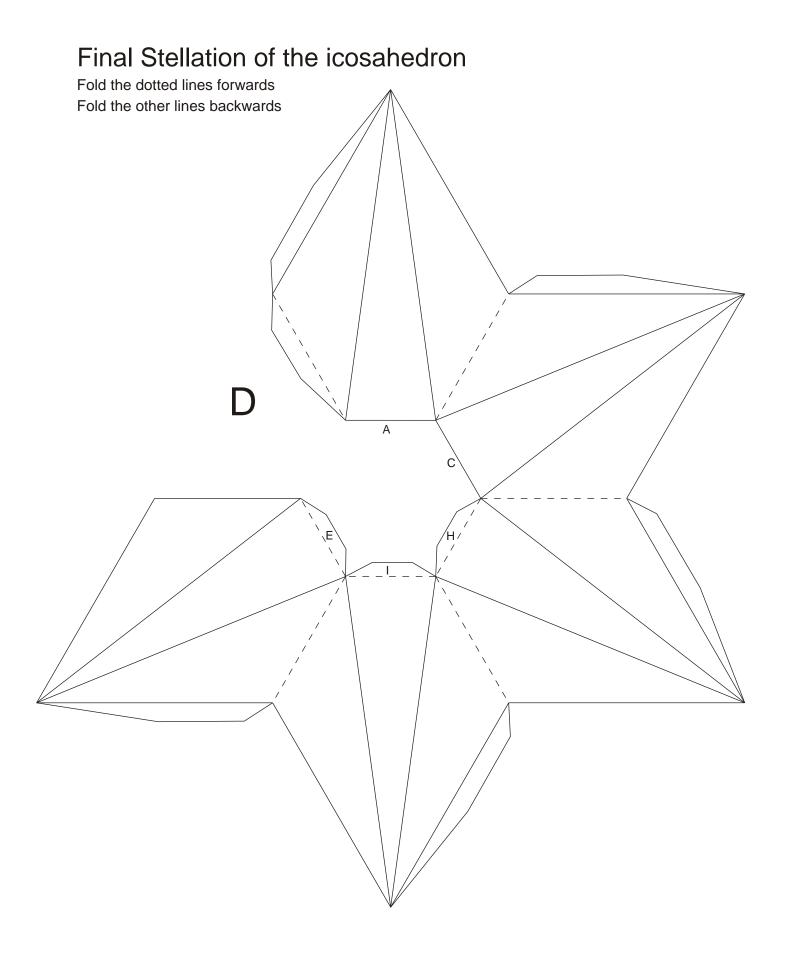


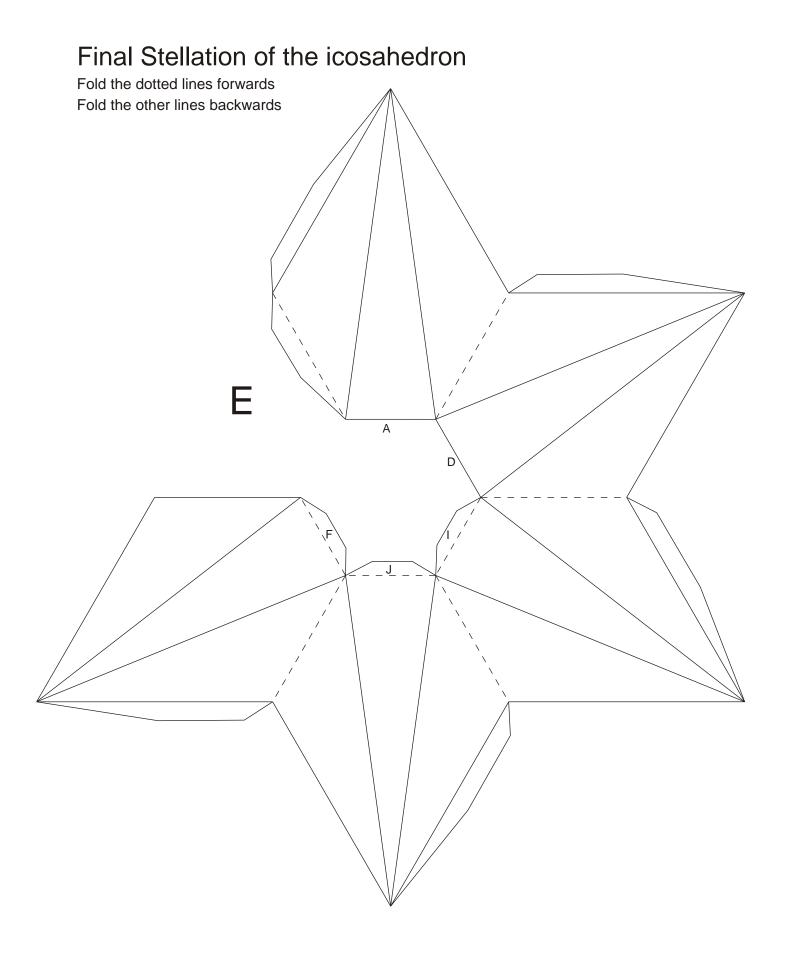


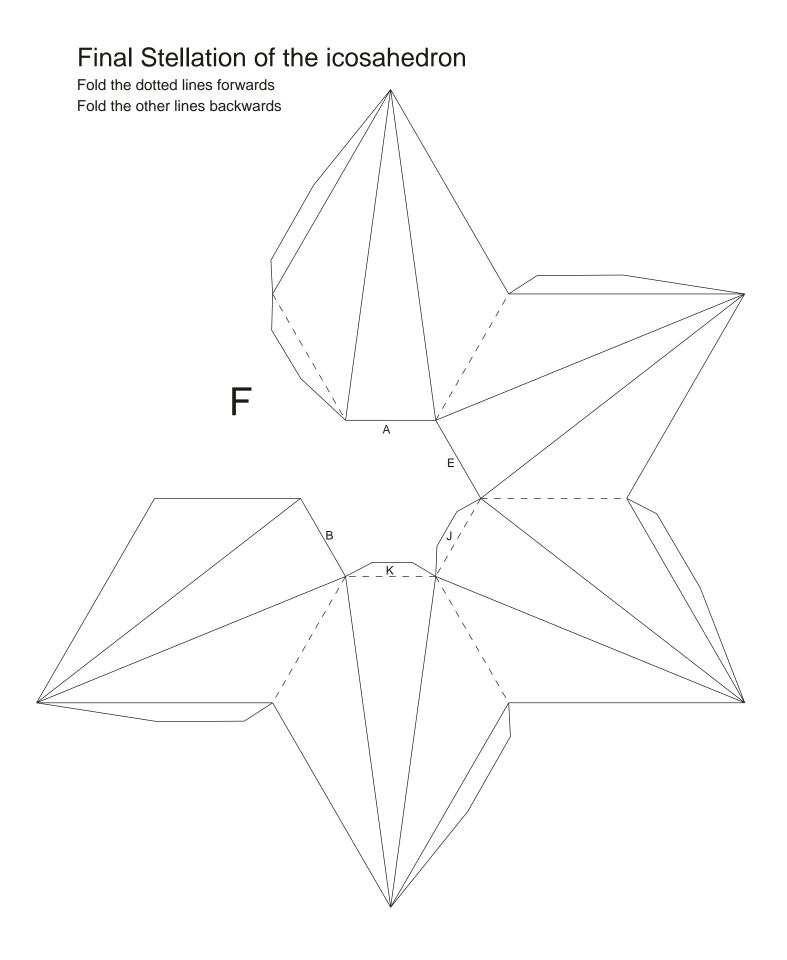


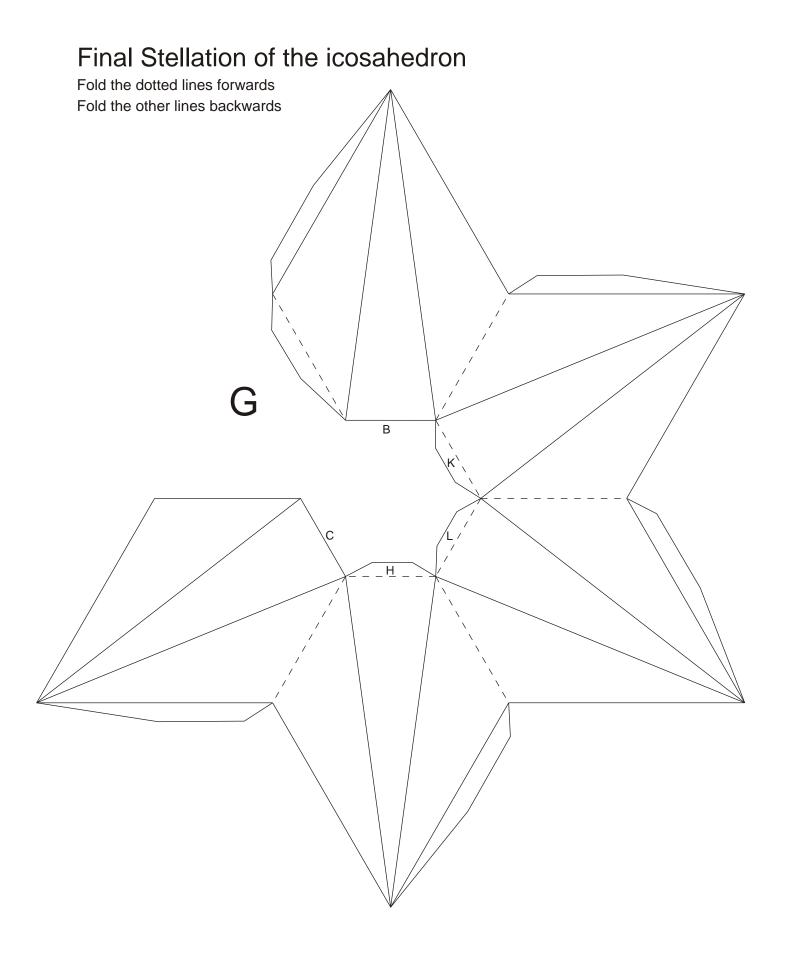


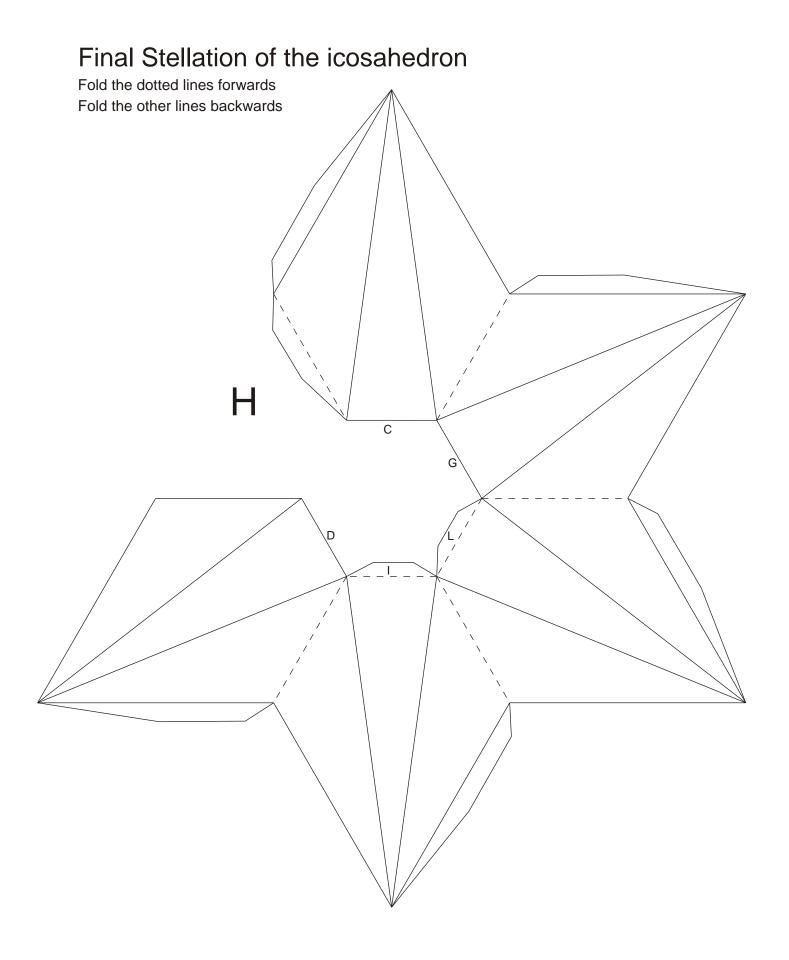


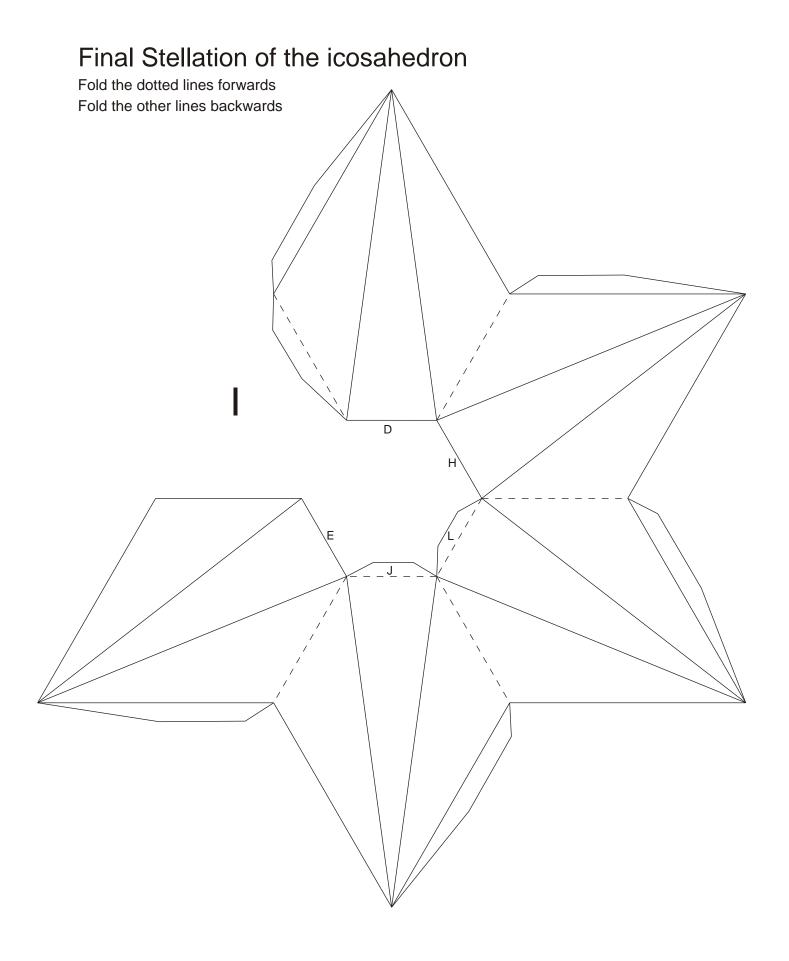


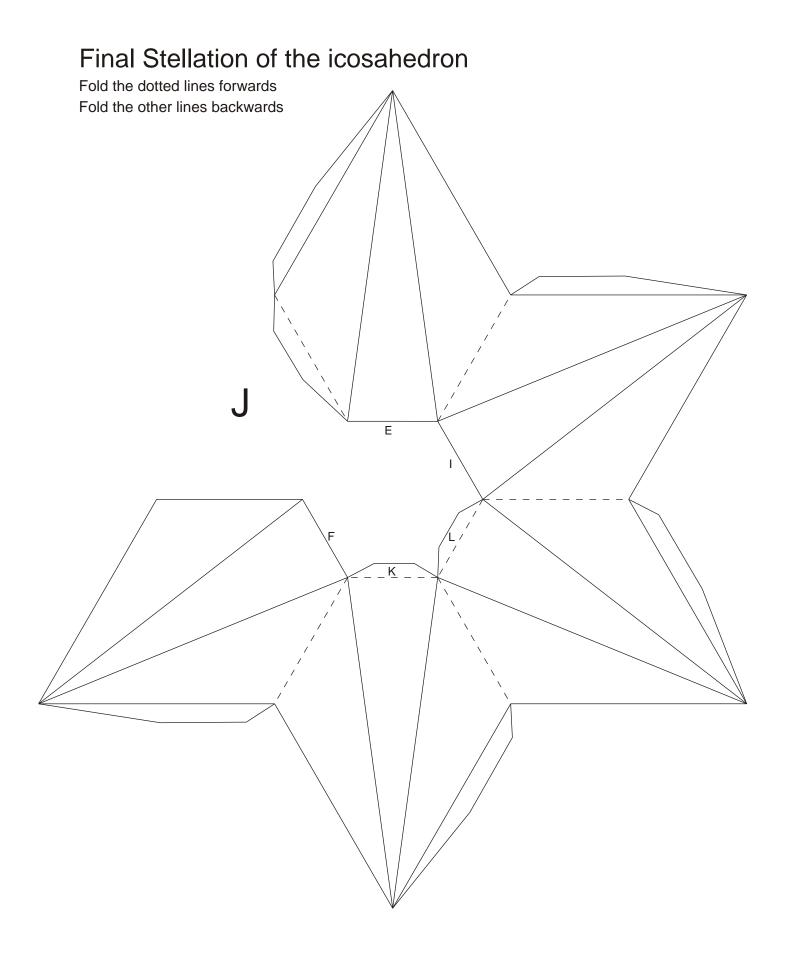


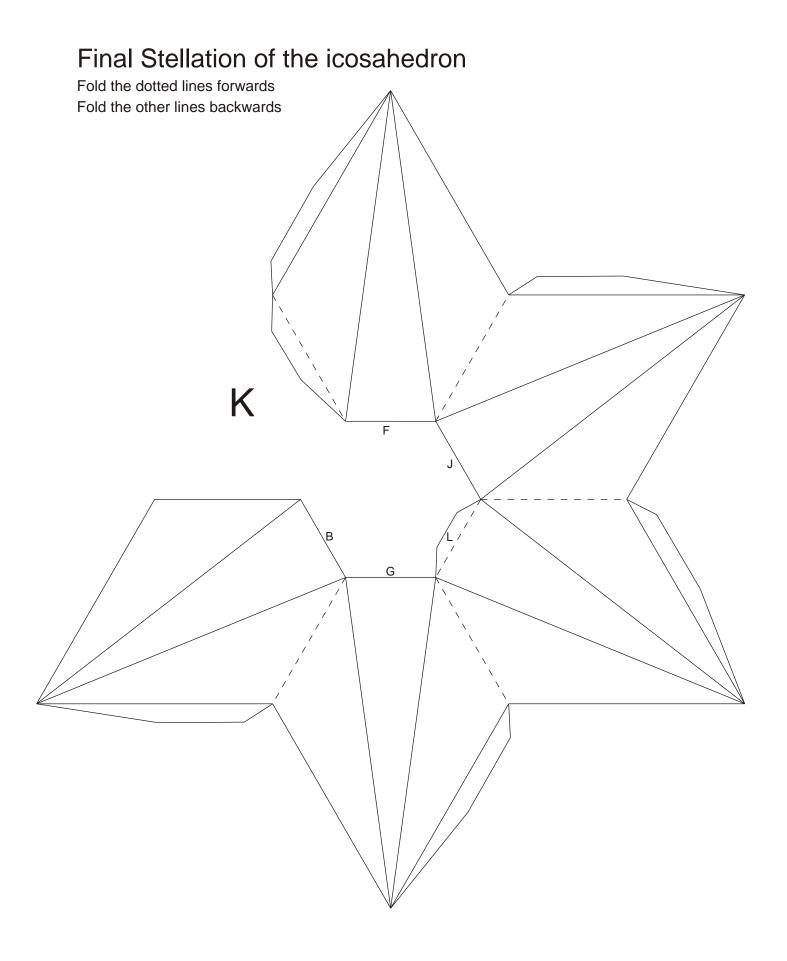


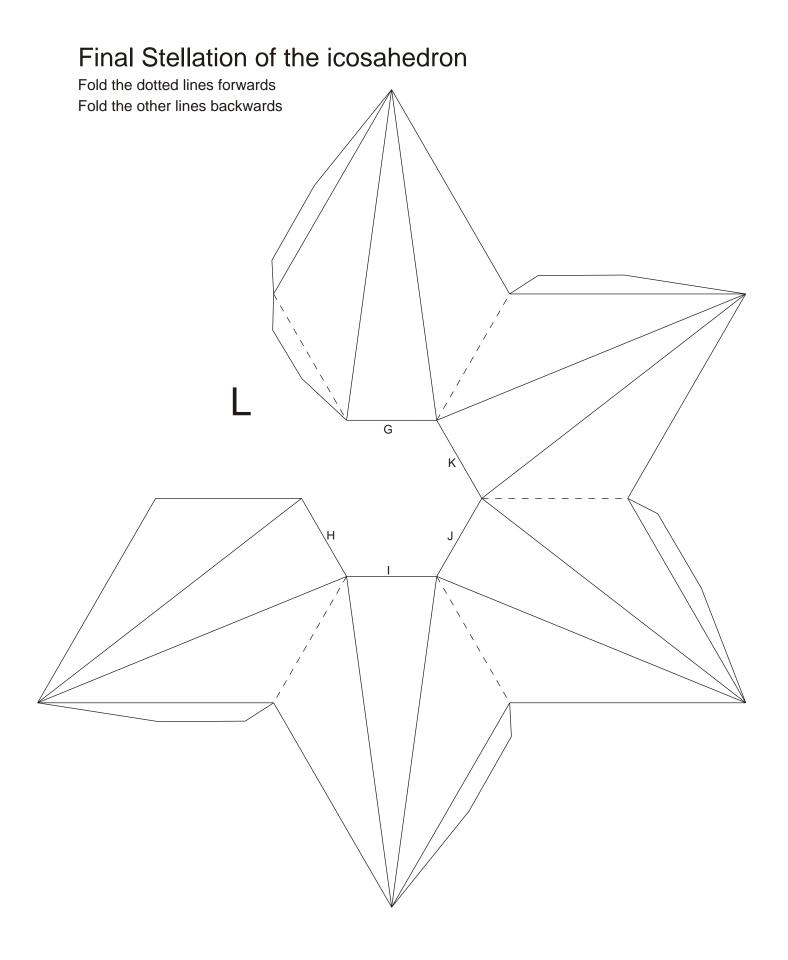


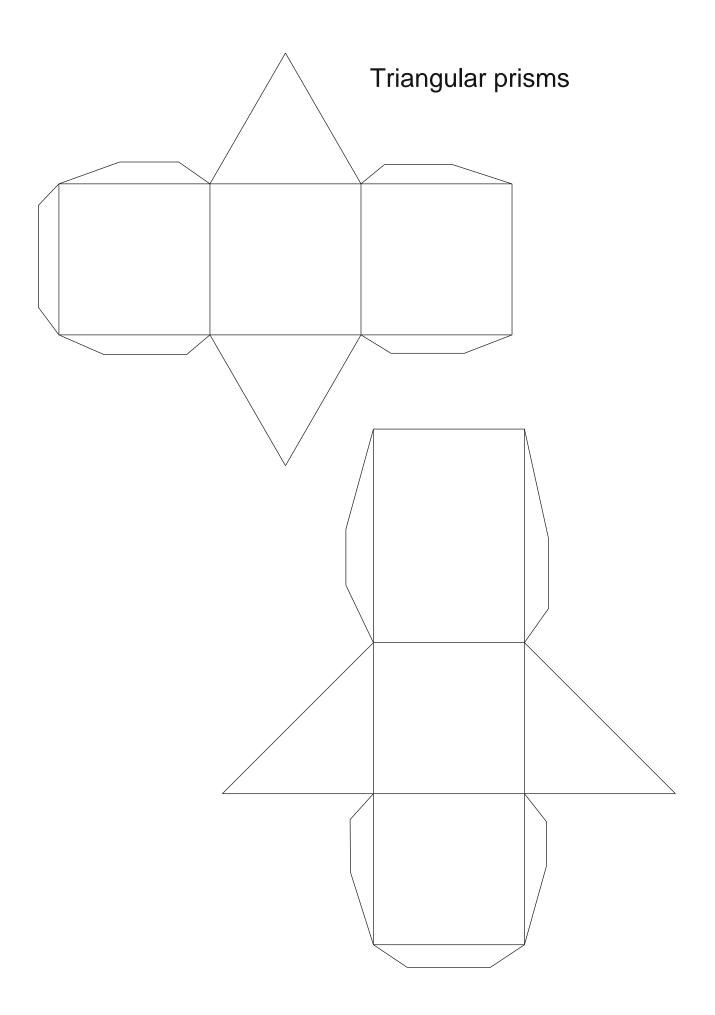






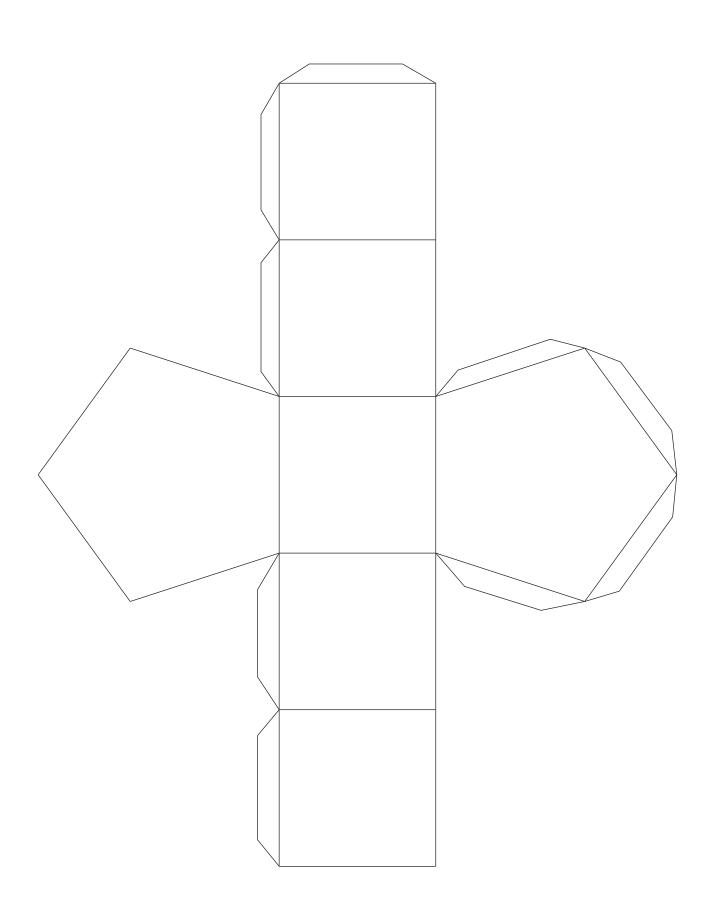


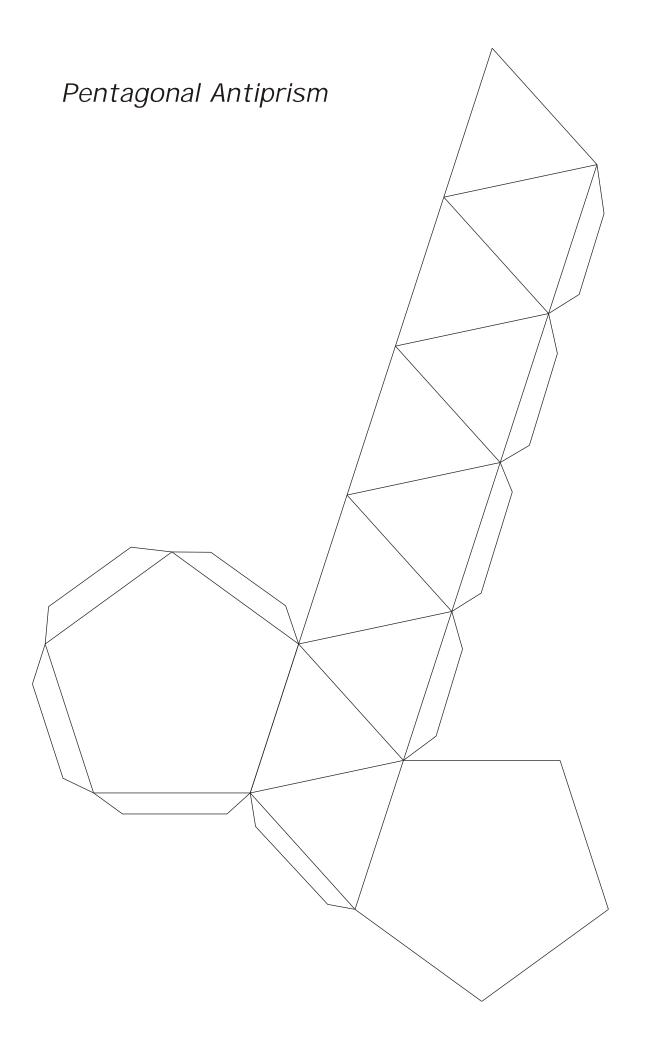


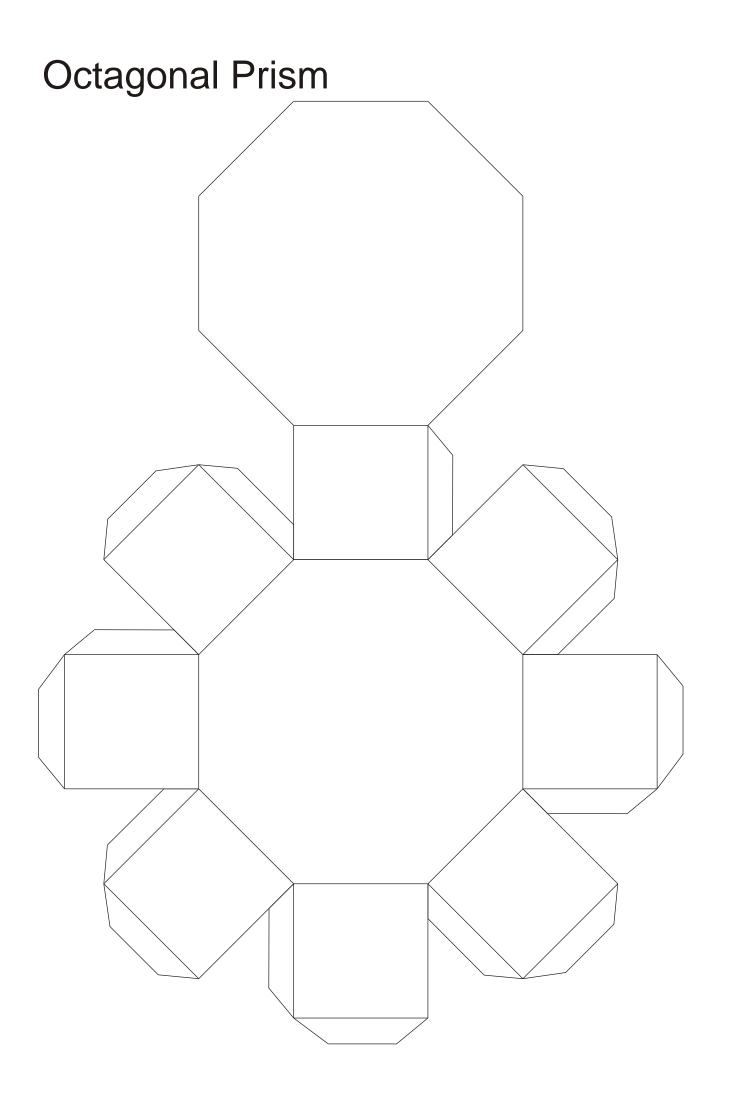




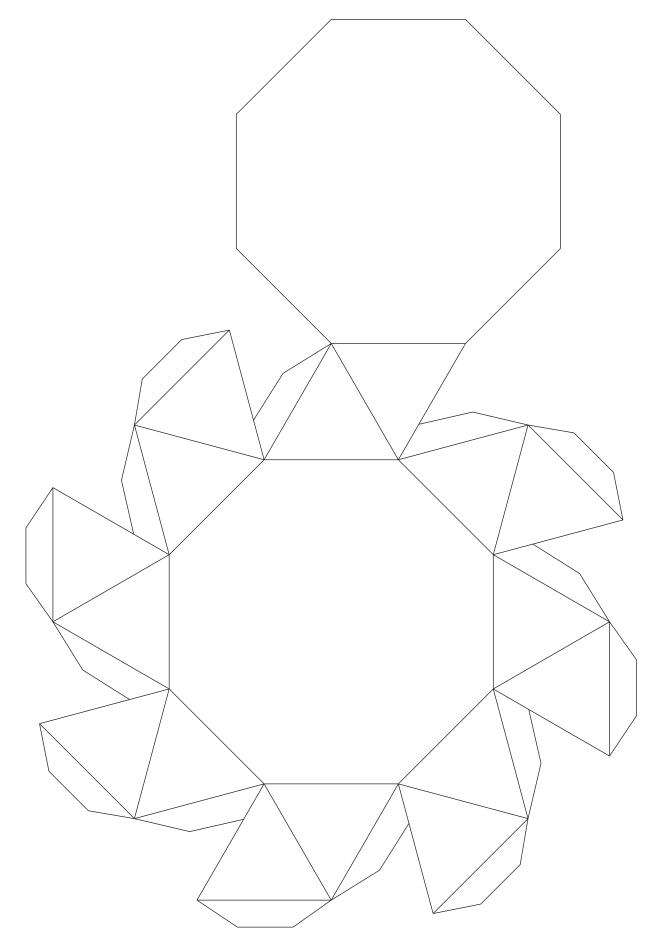
Pentagonal Prism www.japaoburajirujin.blogspot.com



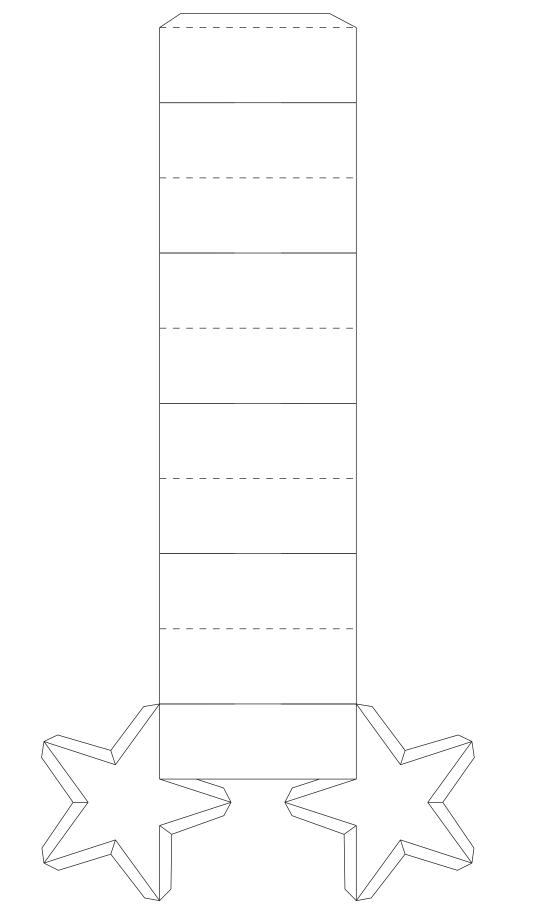




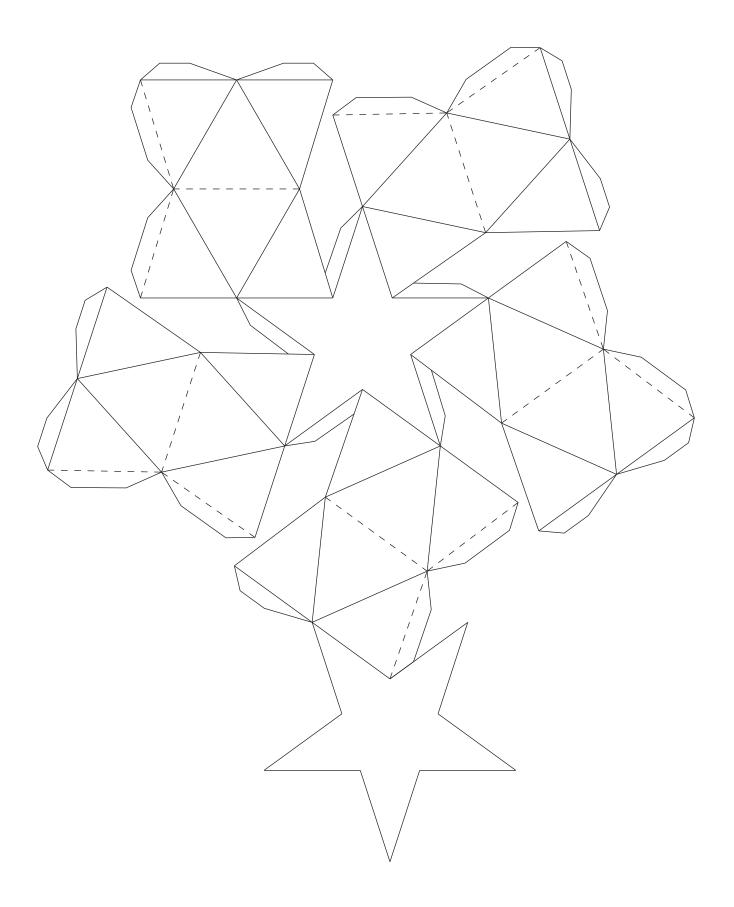
# Octagonal Antiprism



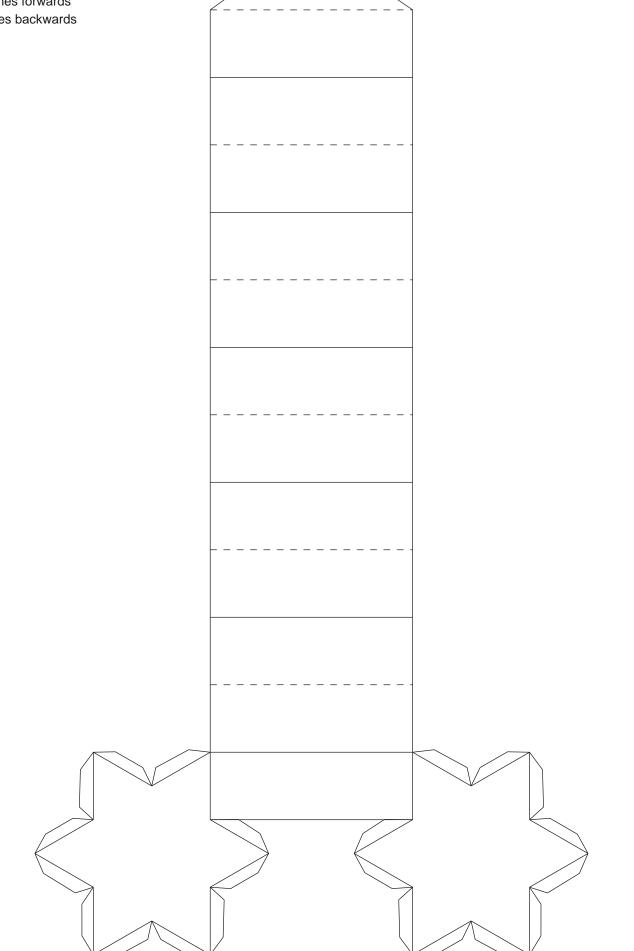
#### Pentagrammic Prism



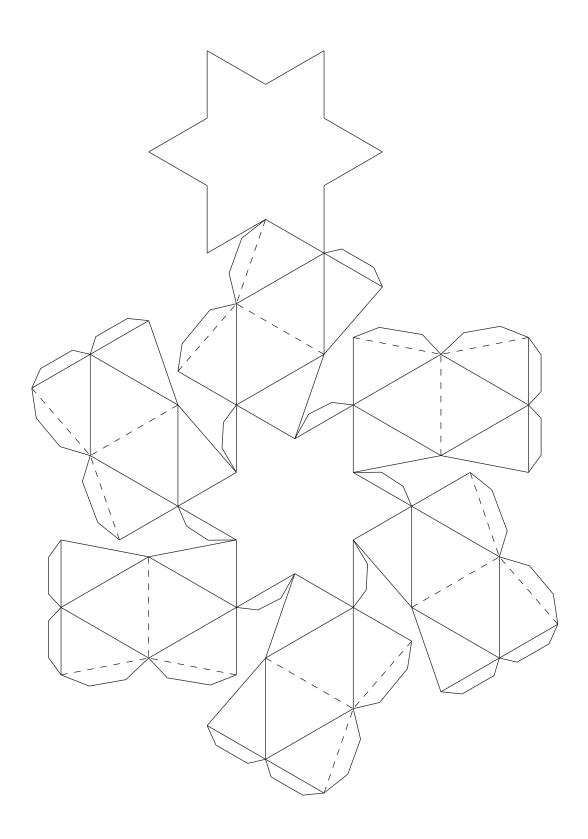
#### Pentagrammic Antiprism



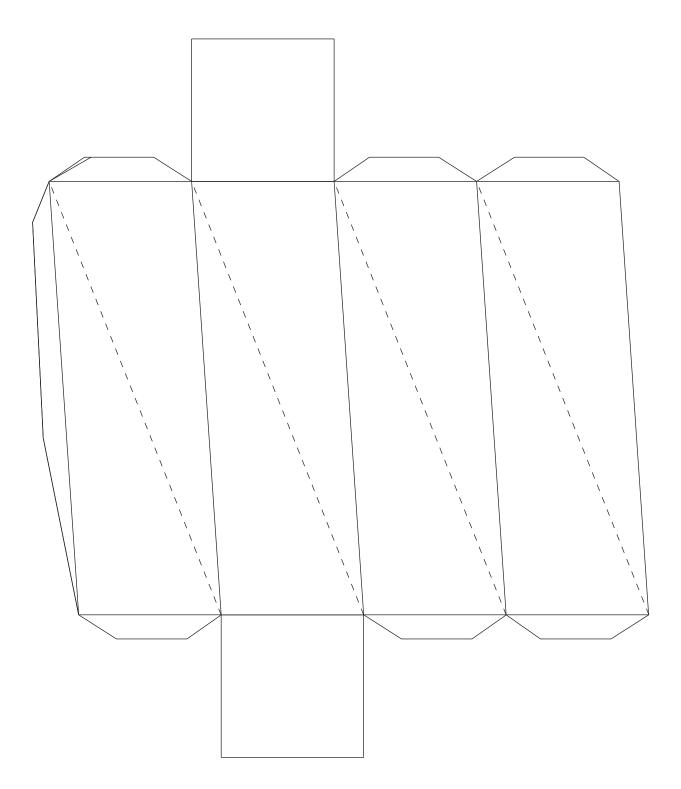
# Hexagrammic Prism



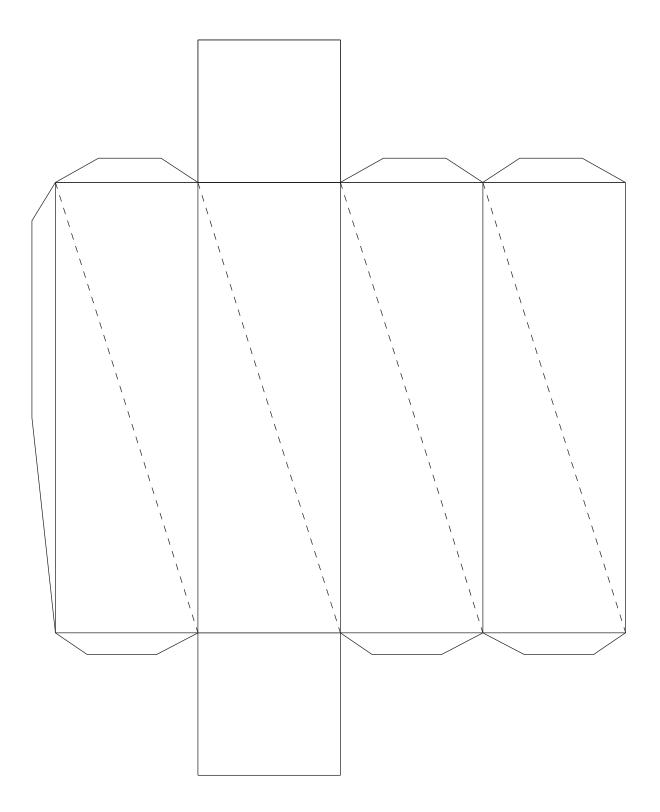
# Hexagramic Antiprism



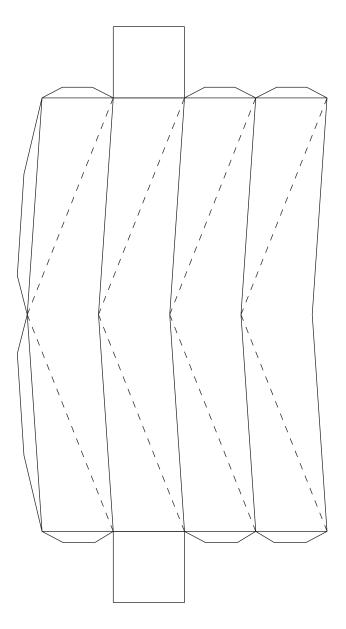
# Twisted rectangular prism (45 degrees)



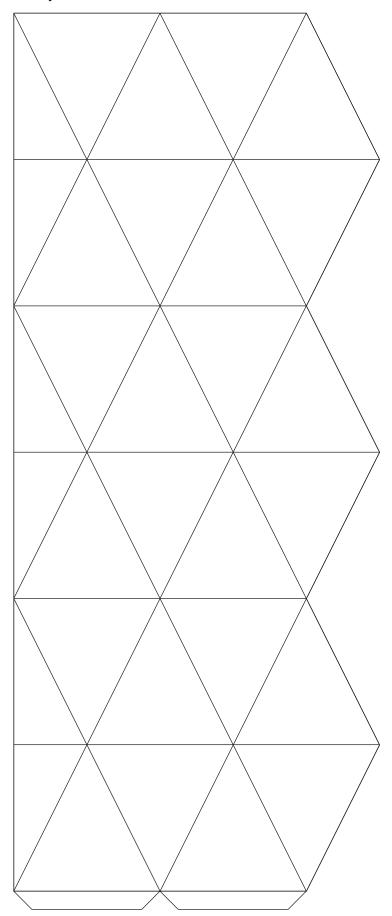
## Twisted rectangular prism (90 degrees)

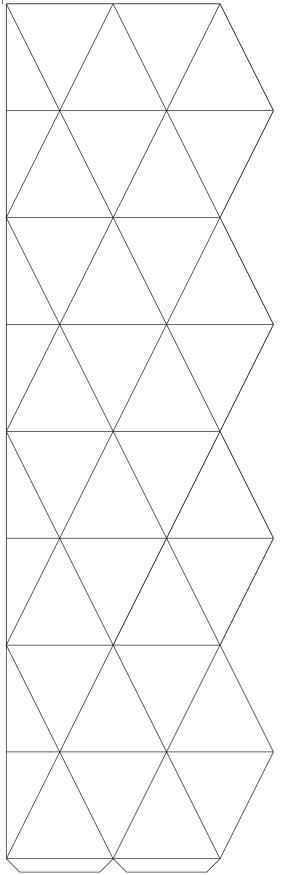


Twisted rectangular prism (+ 45 -45 degrees)



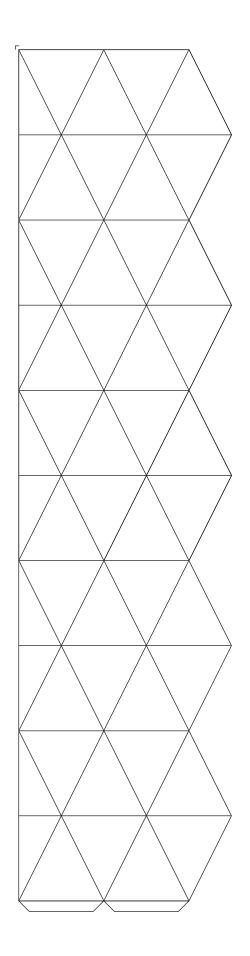
Kaleidocyclus

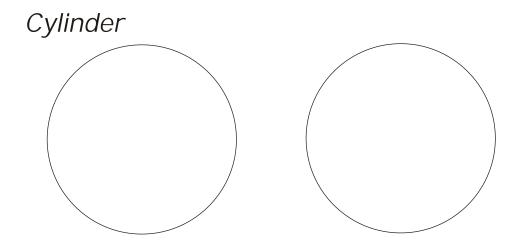




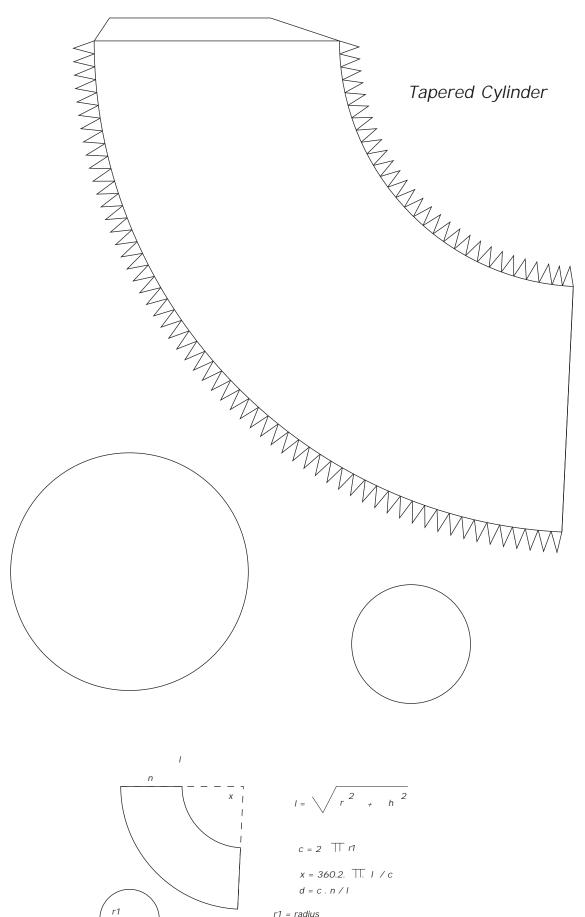
Caleidocyclus 8

Caleidocyclus 10





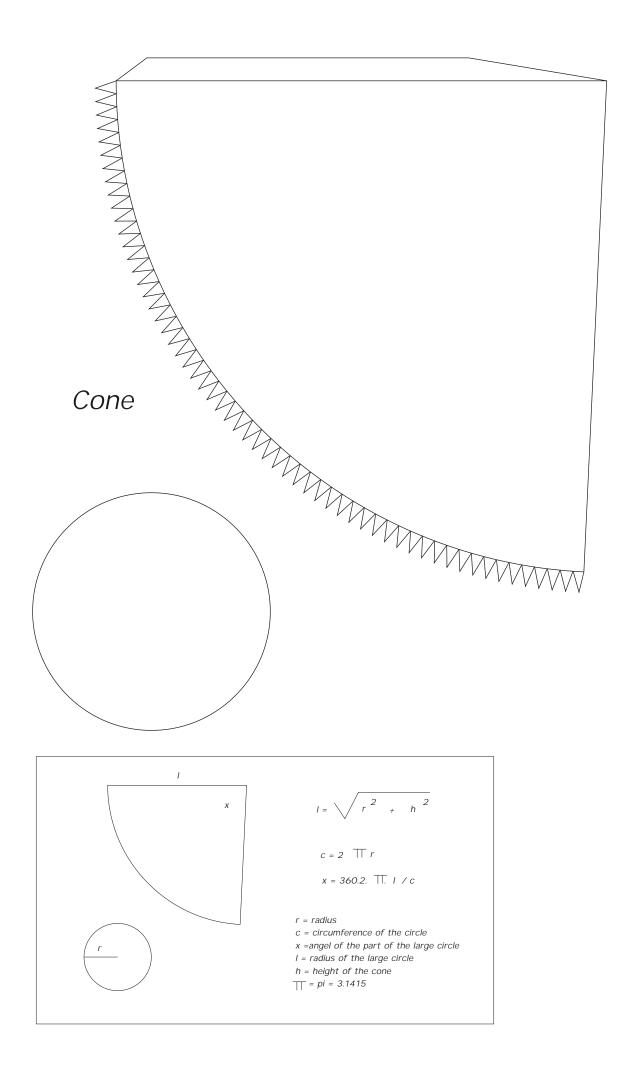
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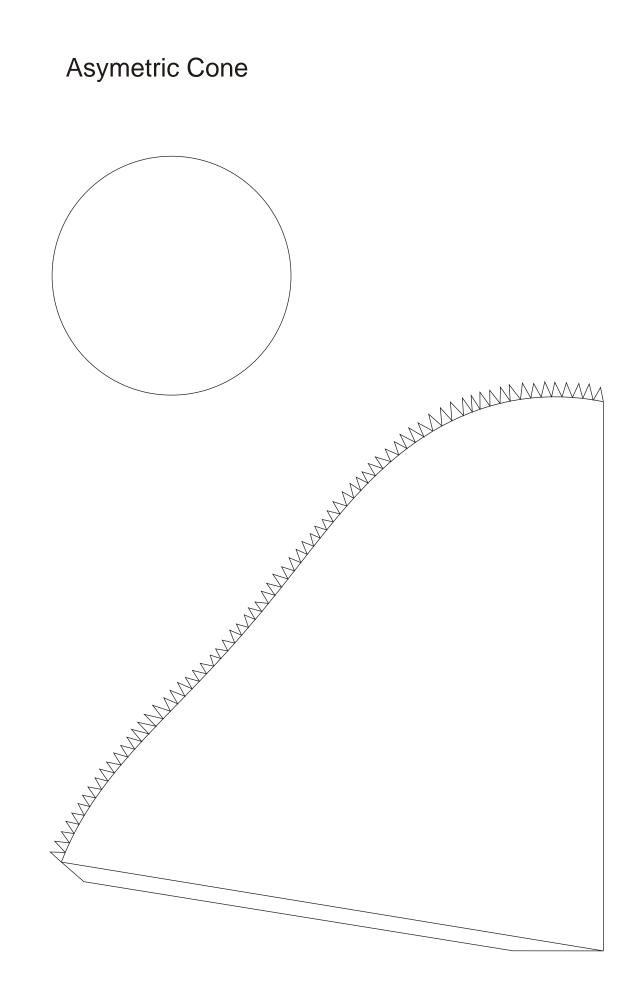


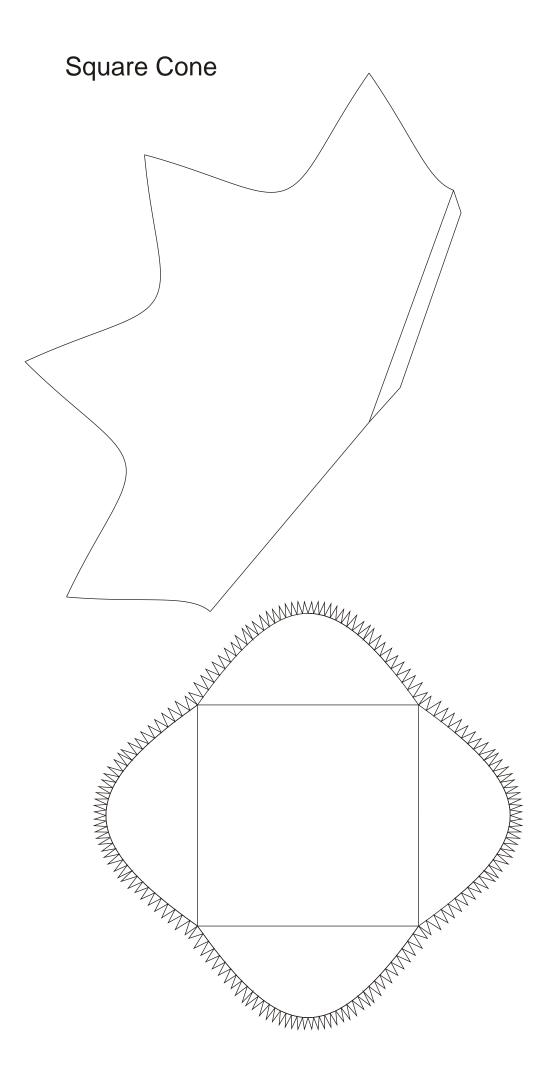
r1 = radius

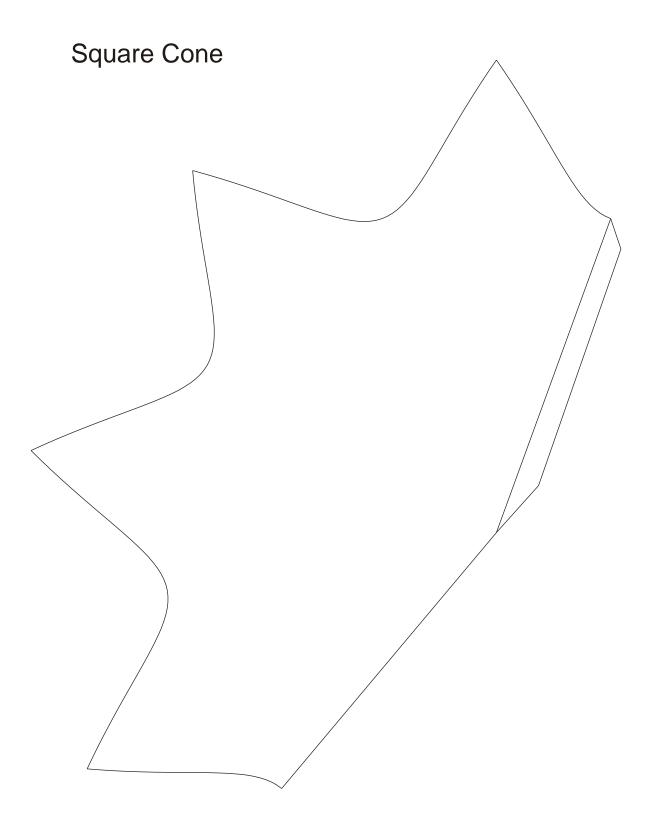
<u>r2</u>

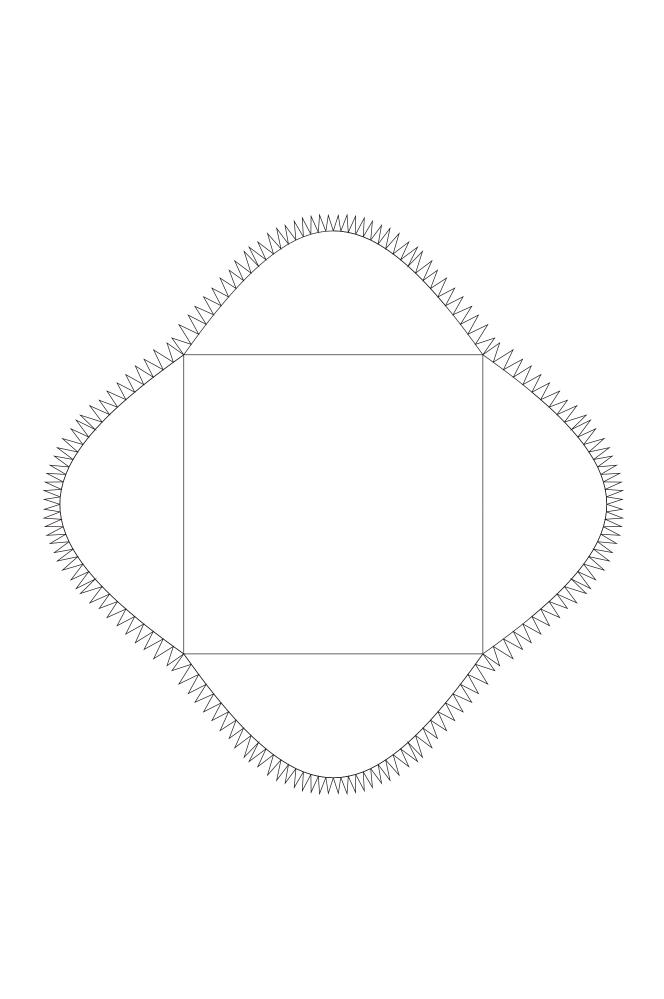
- r2 = radius
- c = circumference of circle 1
- d = circumference of circle 2
- x =angel of the part of the large circle
- I = radius of the large circle
- h = height of the cone
- *i = heigt of the* tapered cylinder
- | = pi = 3.1415

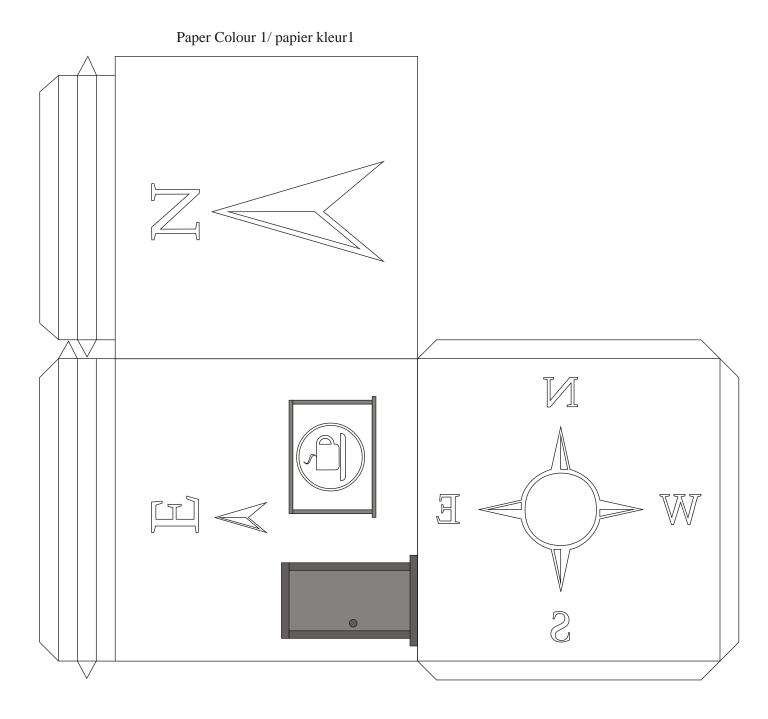




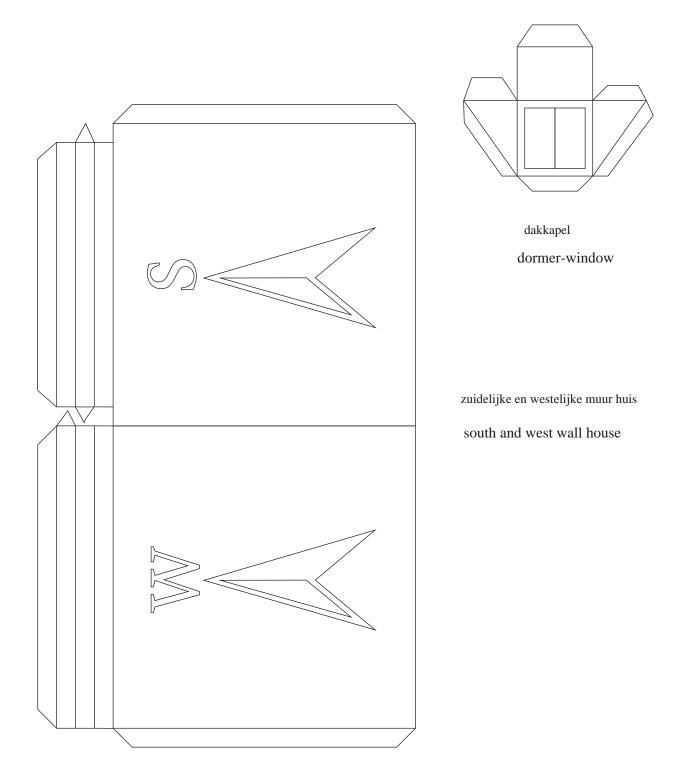








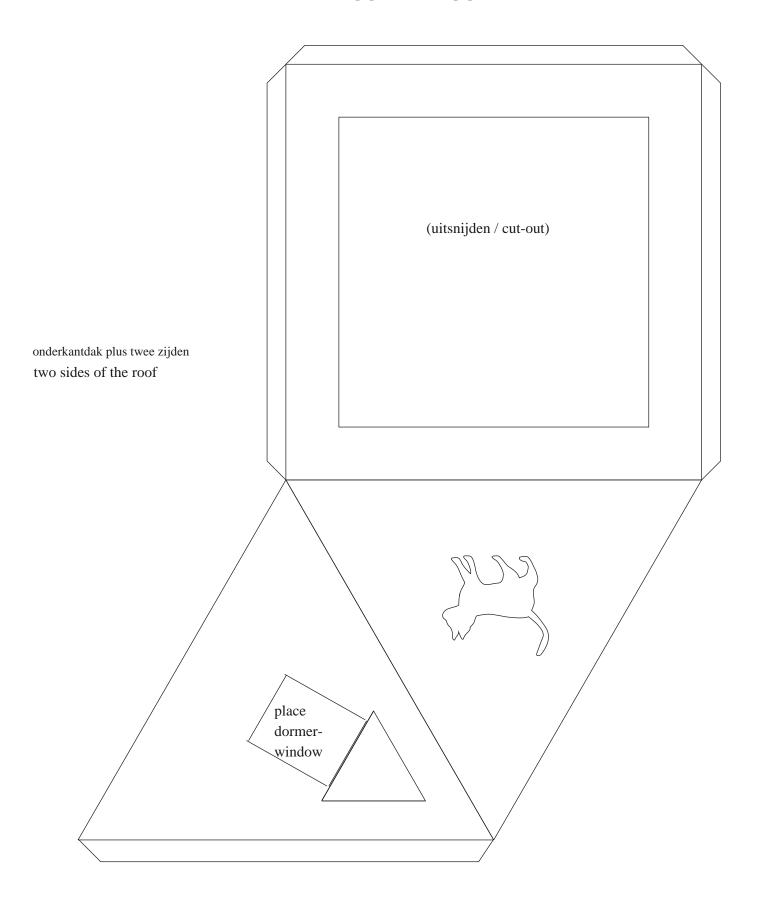
noordelijke, oostelijke muur huis en de bodem north, east wall of the house and the floor

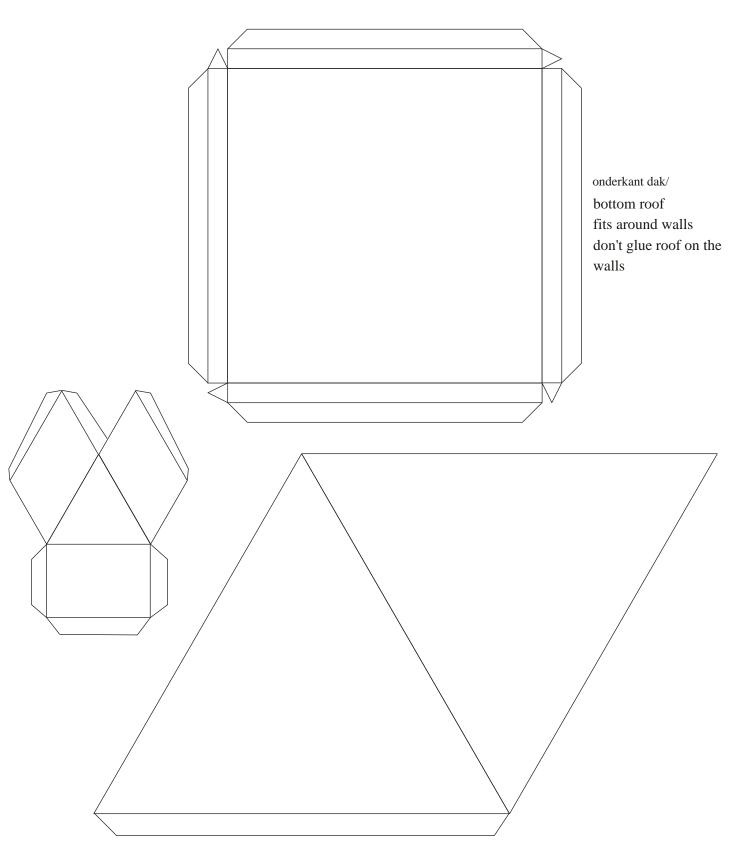




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paper colour 2 / papier kleur 2



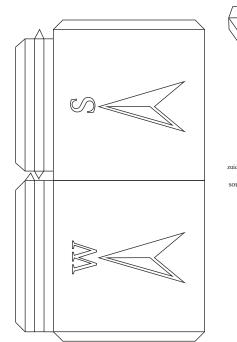


Twee zijden dak

Two sides of the roof

paper colour 2 / papier kleur 2

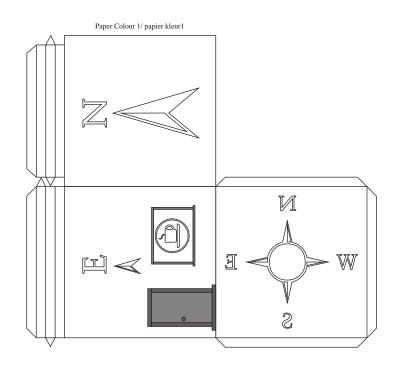
Paper Colour 1/ papier kleur1



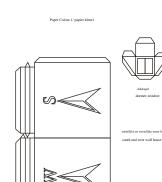


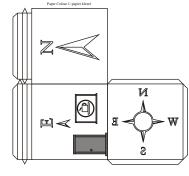
dakkapel dormer-window

zuidelijke en westelijke muur huis south and west wall house

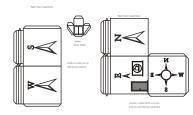


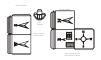
noordelijke, oostelijke muur huis en de bodem north, east wall of the house and the floor

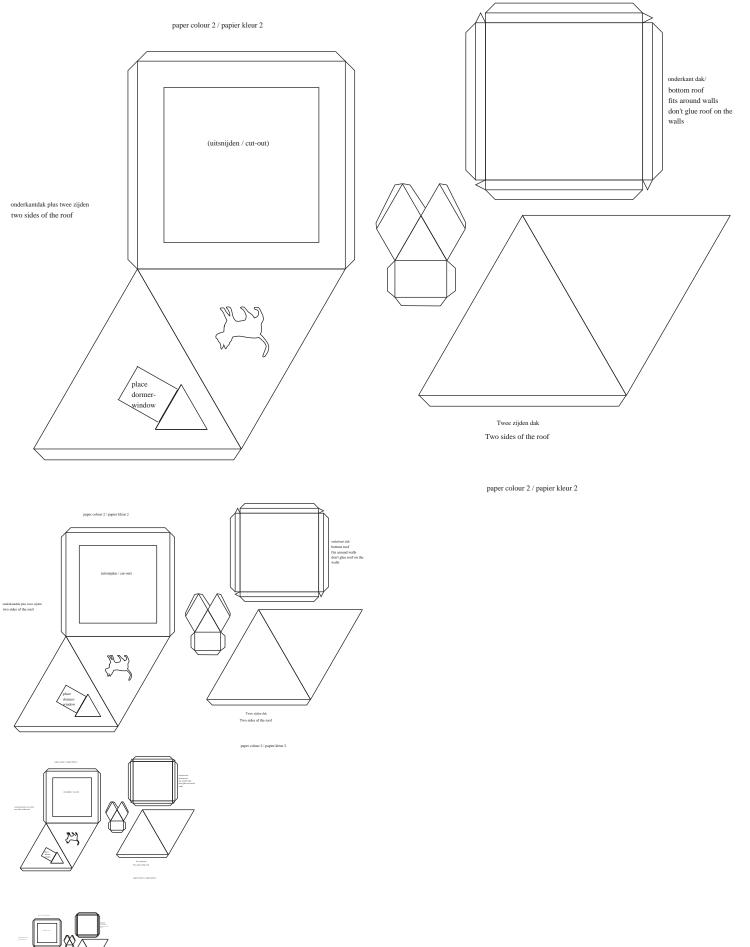


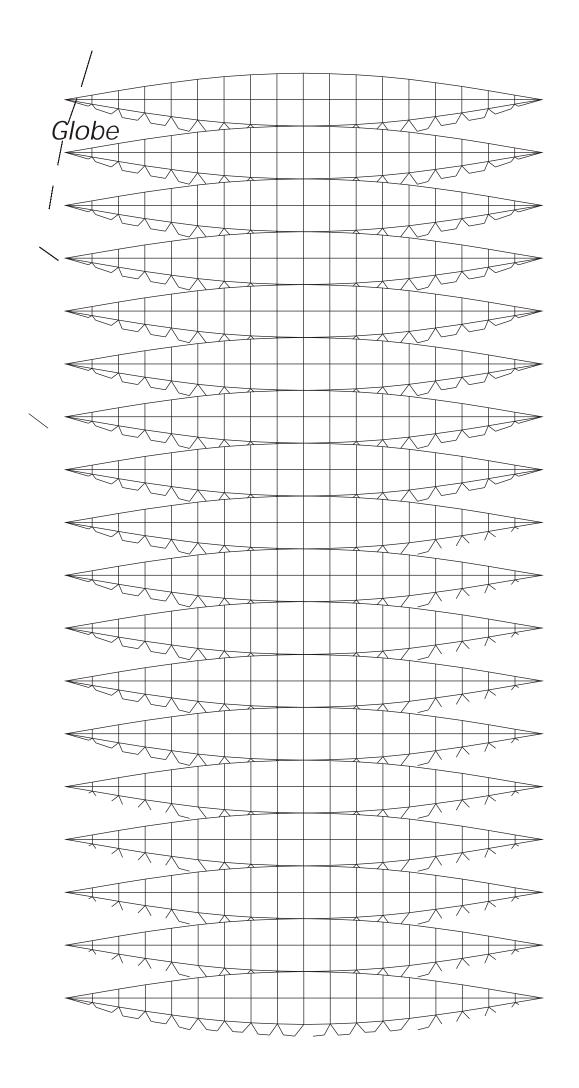


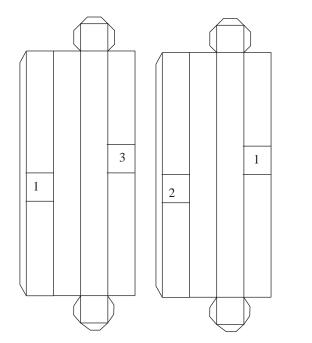
noordelijke, oostelijke maar huis en de bodem north, east wall of the house and the floor

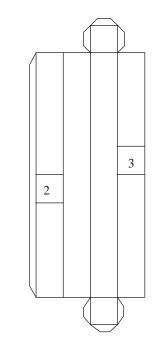


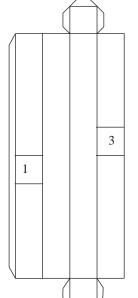


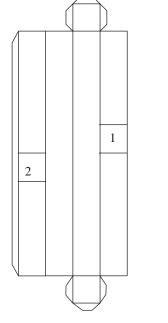


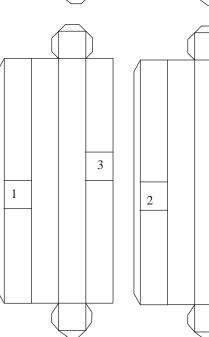


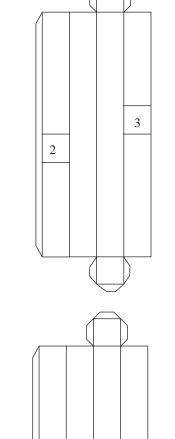


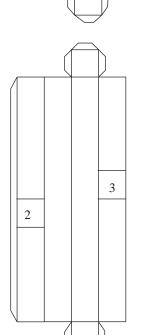


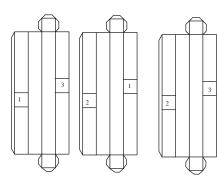


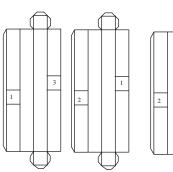




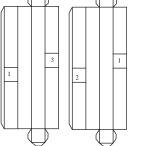


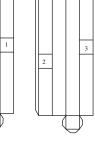


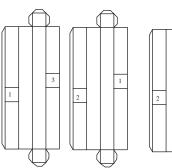


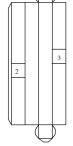


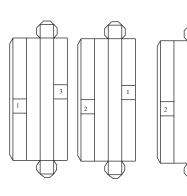












## Large Chevaux-de-frise

The other two parts are on the next two pages

